
Item ID Number: 00062

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Report/Article Title Supplement II to Technical Report 46: Basic Data From H-34/Hidal Calibration Trials, 1963

Journal/Book Title

Year 1964

Month/Day June

Color ✓

Number of Images 266

Description Notes Project Agile under ARPA Order 256, some pages missing throughout the document

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Military

1963

SUPPLEMENT II
TO

ARPA TECHNICAL REPORT 46

AD 442479

BASIC DATA
FROM H-34/HIDAL CALIBRATION TRIAL

AUTHORITY: DARCF
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442479

SUPPLEMENT II

TO

TECHNICAL REPORT 46

BASIC DATA

FROM H-34/HIDAL CALIBRATION TRIALS

1963

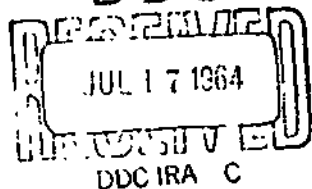
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SUPPLEMENT II
to
TECHNICAL REPORT 46

BASIC DATA FROM
H-34/HIDAL CALIBRATION TRIALS
1963

This research was supported by the
Advanced Research Projects Agency
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Crops Division
DIRECTOR OF BIOLOGICAL RESEARCH

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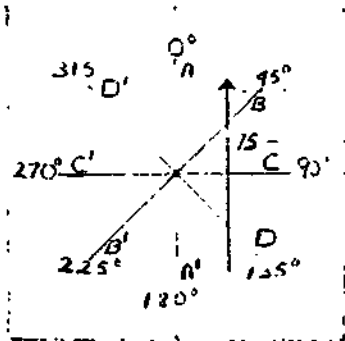
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INTRODUCTION

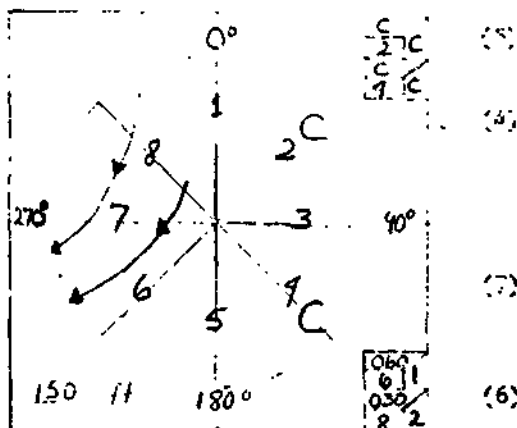
This supplement concerns the calibration of a modified H-34/HIDAL spray system and presents the basic data and spray deposit patterns obtained in 100 test flights at Eglin Air Force Base between 27 June and 16 July 1963. The data are presented in the sequence of ground flow determinations, mass median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

SAMPLE AND EXPLANATION OF METEOROLOGICAL DATA



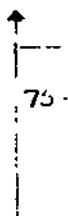
(1) (2)

(1a)



(3)

(1)
&
(1a)

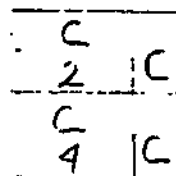


Aircraft course

Station No. aircraft crossed

(5)

Calm
Met. data station



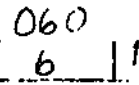
(2)



Wind current

(6)

Wind direction in degrees



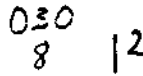
Wind speed mph

(3)

150ft

Altitude in feet, met. data obtained

Met. data station



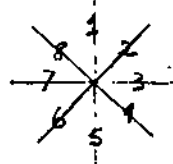
Wind speed mph

(4)

C

Calm

(7)



1-8 indicate location of met. data station

Sky Conditions

Example: 25 - ☺ 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

4.

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: 26 June 1963

DATE TEST FLOWN: 27 June 1963

LIQUID SPRAYED: Fuel Oil

TOTAL NOZZLES OPEN: 60

NOZZLE TYPE: 8010

LIQUID TEMP: 35° F.

DURATION OF SPRAY: 30 Sec.

PUMP PRESSURE: ----- PSI

TOTAL AMOUNT SPRAYED: 26 Gal.

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: 2/ June 1963SPREAD FACTOR: 6.0FLIGHT #: 1CONVERSION FACTOR: 2.2SAMPLE LINE: BPAPER: Kromekote, whiteFLOW RATE: ----MATERIAL: Fuel OilSYSTEM: 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

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

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

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

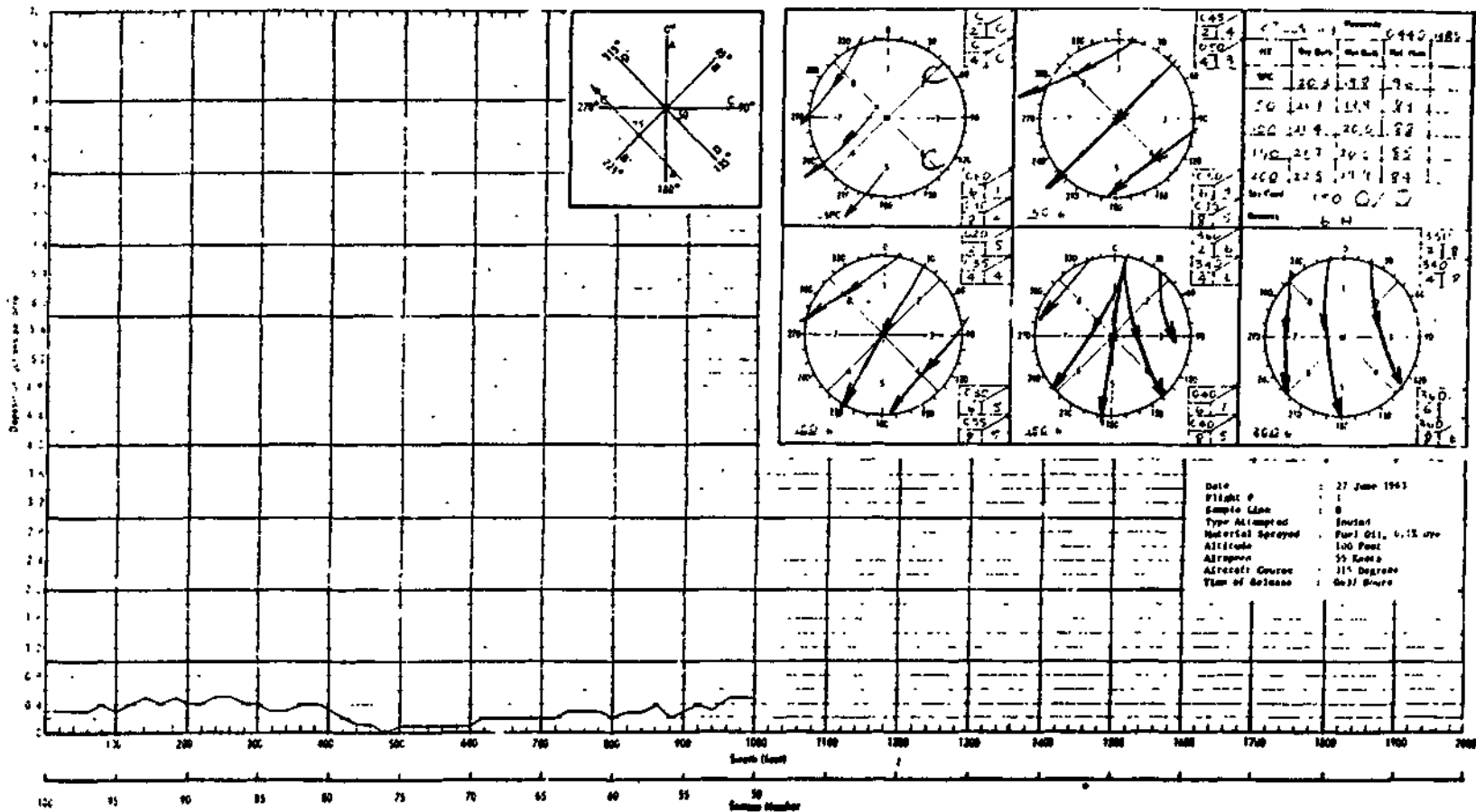
MASS DEPOSIT

MATERIAL: fuel Oil
 DATE: 27 June 1963
 FLIGHT #: 1
 SAMPLE LINE: B
 TIME OF RELEASE: 0437 Hours
 DURATION: 10 Sec.

FLOW RATE: ----
 SYSTEM: 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 - 50 blank				51	0.5	76	0.3
		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	0.2		
		57	0.4	82	0.3		
		58	0.3	83	0.3		
		59	0.3	84	0.3		
		60	0.2	85	0.2		
		61	0.3	86	0.2		
		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	0.5		
		69	0.2	94	0.2		
		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



MASS MEDIAN DIAMETER

DATE. 27 June 1963SPREAD FACTOR 6.0FLIGHT #: 2CONVERSION FACTOR: 2.2SAMPLE LINE: BPAPER: Kromckote, whiteFLOW RATE: ----MATERIAL: Fuel OilSYSTEM: 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	50		100

$$\text{MMD} = \frac{\text{Spt D Max}}{\text{Sprcad Factor} \times \text{Con. Factor}} = \frac{4000}{6.0 \times 2.2} = 303.0 \text{ Microns}$$

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

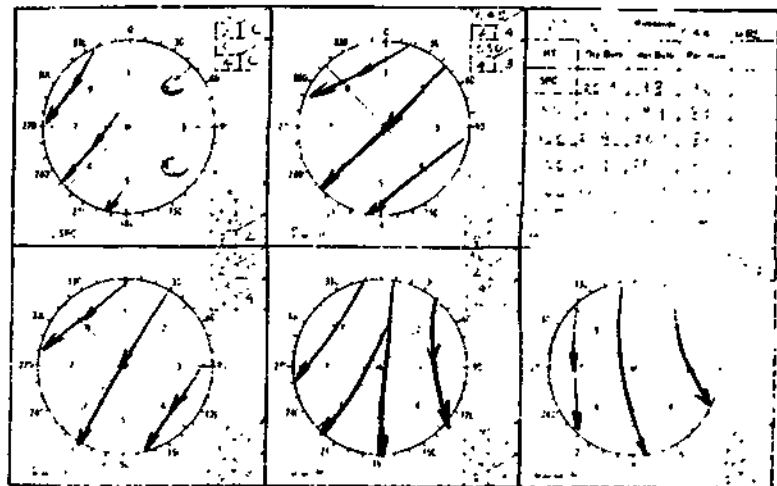
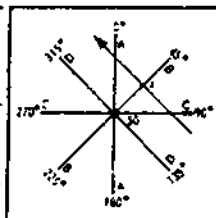
$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSITMATERIAL: Fuel OilFLOW RATE: ----DATE: 27 June 1963SYSTEM: HIDALFLIGHT #: 2AIRSPEED: 55 KnotsSAMPLE LINE: BALTITUDE: 100 FeetTIME OF RELEASE: 0440 HoursAIRCRAFT COURSE: 315 DegreesDURATION: 14 Sec.

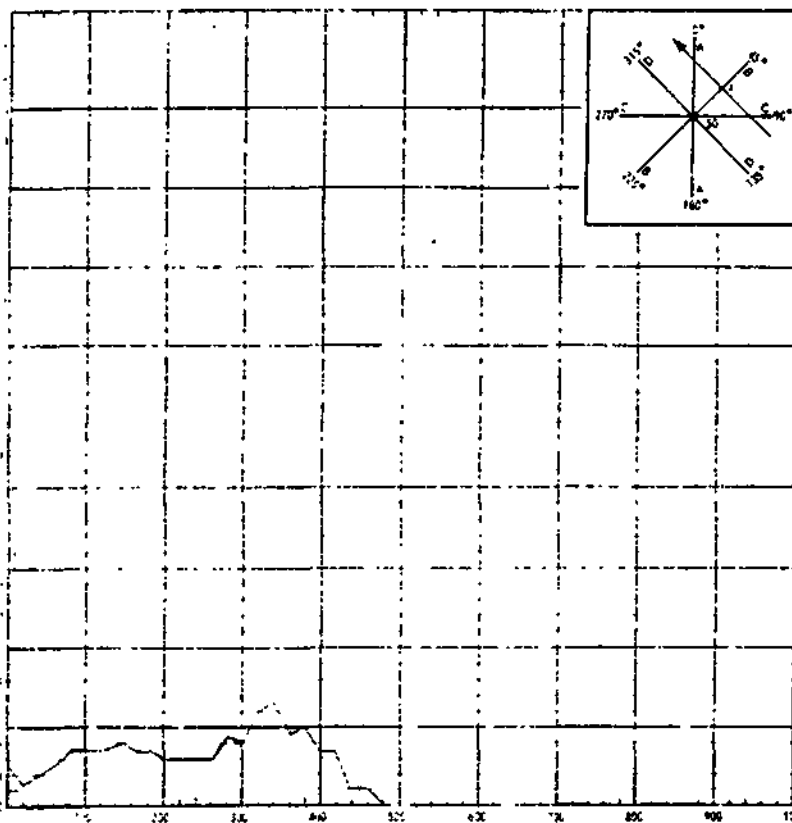
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 26 Blank				Stations 51 - 100 Blank			

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



Date: 27 June 1954
 Flight #:
 Sample #:
 Type Aircraft: S-100
 Name of Station: Fort Ord
 Altitude: 100 Feet
 Altitude: 100 Feet
 Altitude: 100 Feet
 Altitude: 100 Feet
 Time of Release: 08:00



South (feet)

Sample Number

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: <u>1 July 1963</u>	DATE TEST FLOWN: <u>2 July 1963</u>
LIQUID SPRAYED: <u>2 Fuel Oil, 1 Purple</u>	TOTAL NOZZLES OPEN: <u>60</u>
NOZZLE TYPE: <u>8010</u>	LIQUID TEMP: <u>37° C</u>
DURATION OF SPRAY: <u>30</u> Sec.	PUMP PRESSURE: <u>40</u> PSI
TOTAL AMOUNT SPRAYED: <u>30</u> Gal.	BOOM PRESSURE: <u>36</u> PSI
	FLOW RATE CALIBRATED: <u>60</u> GPM

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 1 - 6.

DATE CALIBRATED: <u>1 July 1963</u>	DATE TEST FLOWN: <u>2 July 1963</u>
LIQUID SPRAYED: <u>2 Fuel Oil, 1 Purple</u>	TOTAL NOZZLES OPEN: <u>60</u>
NOZZLE TYPE: <u>Check valves only</u>	LIQUID TEMP: <u>37° C</u>
DURATION OF SPRAY: <u>30</u> Sec.	PUMP PRESSURE: <u>16</u> PSI
TOTAL AMOUNT SPRAYED: <u>40</u> Gal.	BOOM PRESSURE: <u>14</u> PSI
	FLOW RATE CALIBRATED: <u>80</u> GPM

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 7 - 12.

MASS MEDIAN DIAMETER

DATE: 7 July 1963CONVERSION FACTOR: 2.2REPORT NO.: 1PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMSYSTEM: 1 IDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	2	4400*			
77	1	4300			
77	6	4200			
77	5	4100			
78	8	4000			
77	7	3800	76	1	75 (smallest)
77	3	3700			
77	4	3600			
77	10	3500			
77	9	3400			

$$MMD = \frac{67.72 + 0.1420 (\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{6600}{6.355 \times 2.2} = 314.7 \text{ Microns}$$

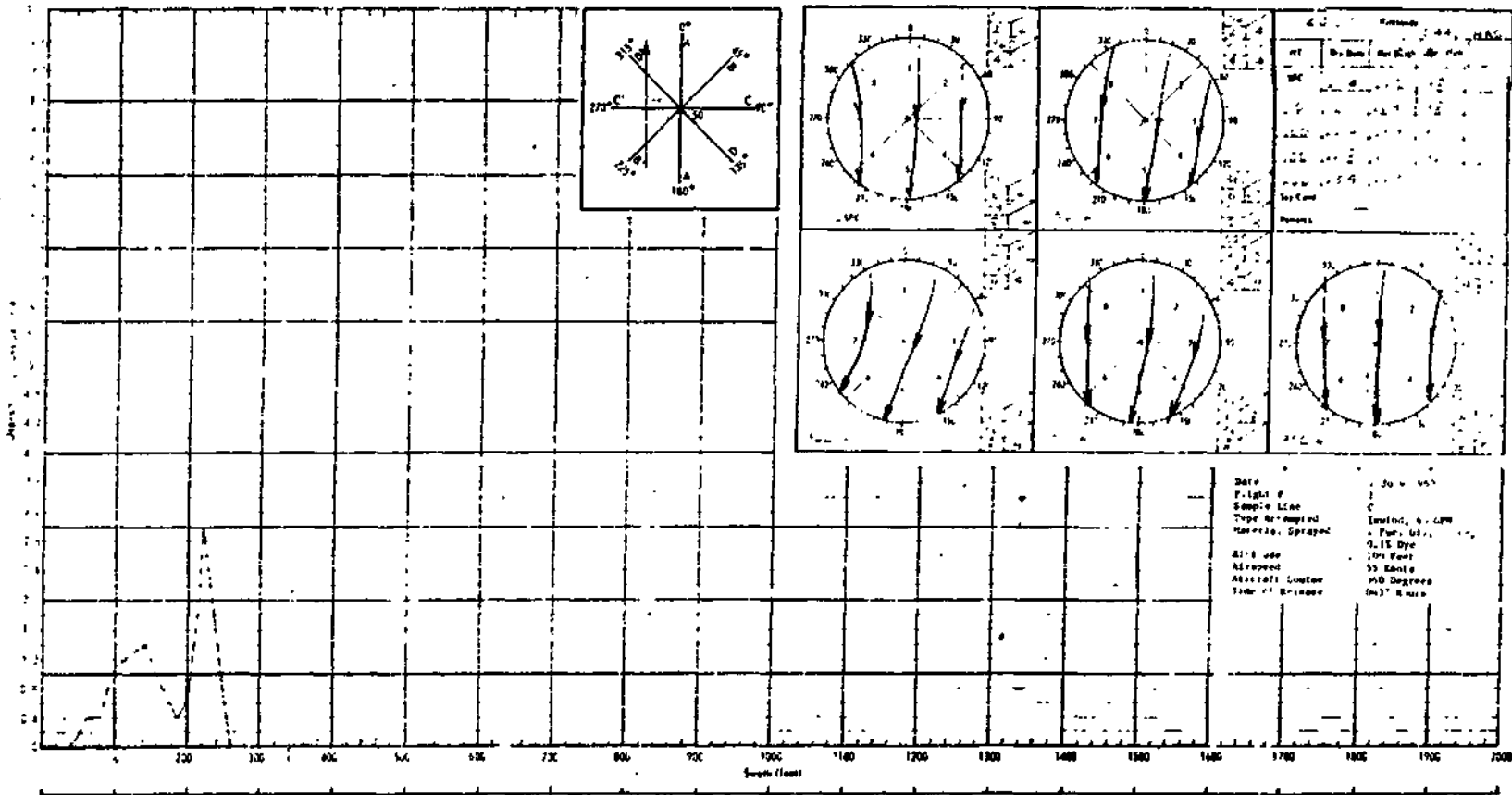
$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420 (4'00)}{6.355} = \frac{4600}{6.355} = 692.4 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 48 \text{ Microns}$$

MASS DEPOSITMATERIAL 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMDATE: 2 July 1963SYSTEM: HIDALFLIGHT 1AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 100 FeetTIME OF RELEASE: 0437 HoursAIRCRAFT COURSE: 360 DegreesDURATION 12.5 Sec.

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



40 75 70

Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2DROPLET #: 2PAPER: Monokote, whiteNO. PLS LINE: CMATERIAL: 1 Fuel Oil, 1 PurpleFLOW RATE: 60 GMSYSTEM: WIAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
30	3	5000			
30	4	4700			
28	1	4400*			
29	2	4300			
28	3	4200			
30	5	4100			
31	6	4000	38	1	100 (smallest)
25	7	3900			
25	9	3800			
22	10	3700			

$$\text{MMD} = \frac{67.72 - 0.1420 (\text{Spot 1 Max})}{2.2} = \frac{4400}{6.355 \times 2.2} = 314.7 \text{ Microns}$$

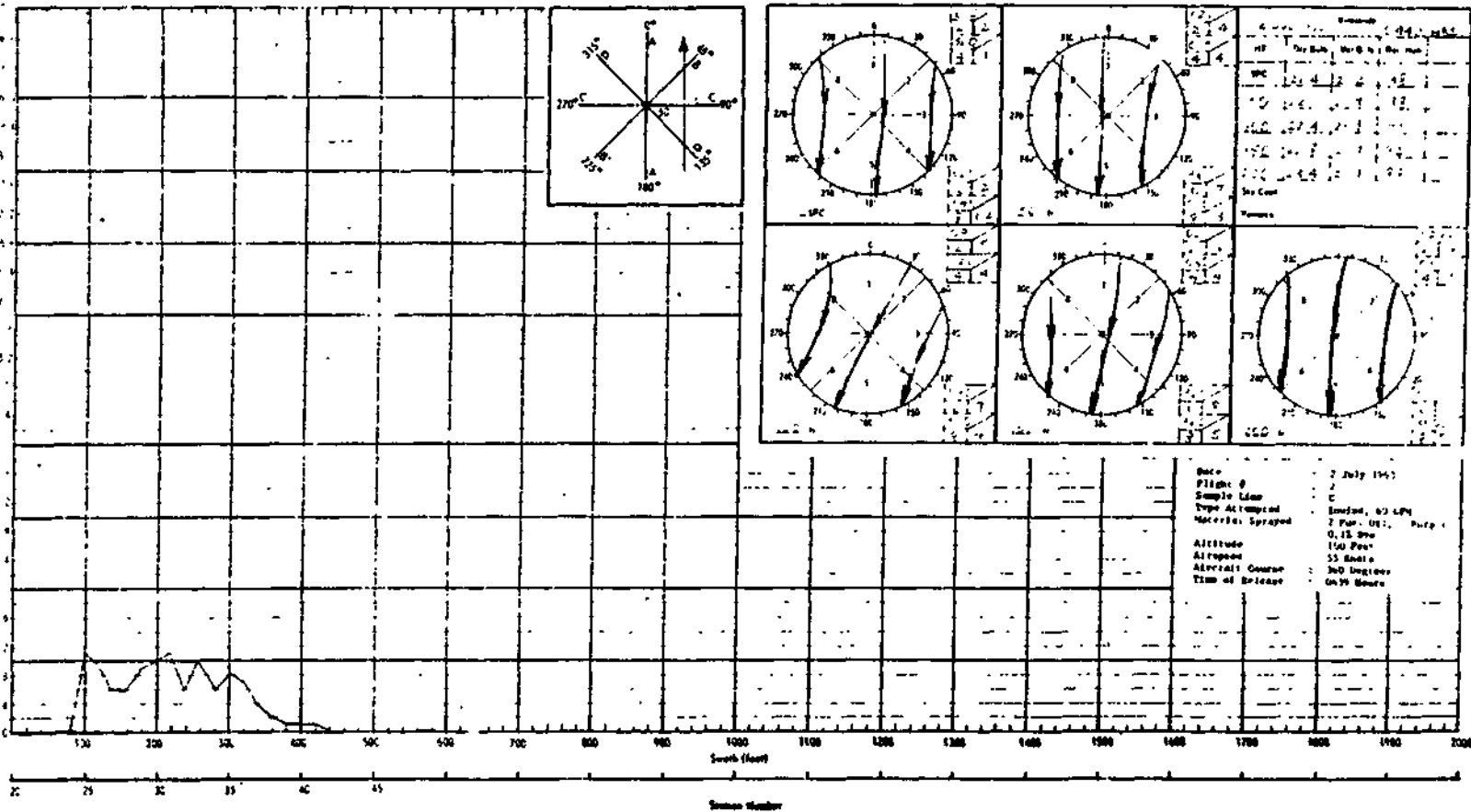
$$\text{Max. Sph. Dia.} = \frac{67.72 - 0.1420 (5000)}{6.40} = \frac{5100}{6.40} = 777.6 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 33 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMDATE: 2 July 1963SYSTEM: HIDALFLIGHT #: 2AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 100 FeetTIME OF RELEASE: 0439 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 11 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	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



MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 3PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMSYSTEM: 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			

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

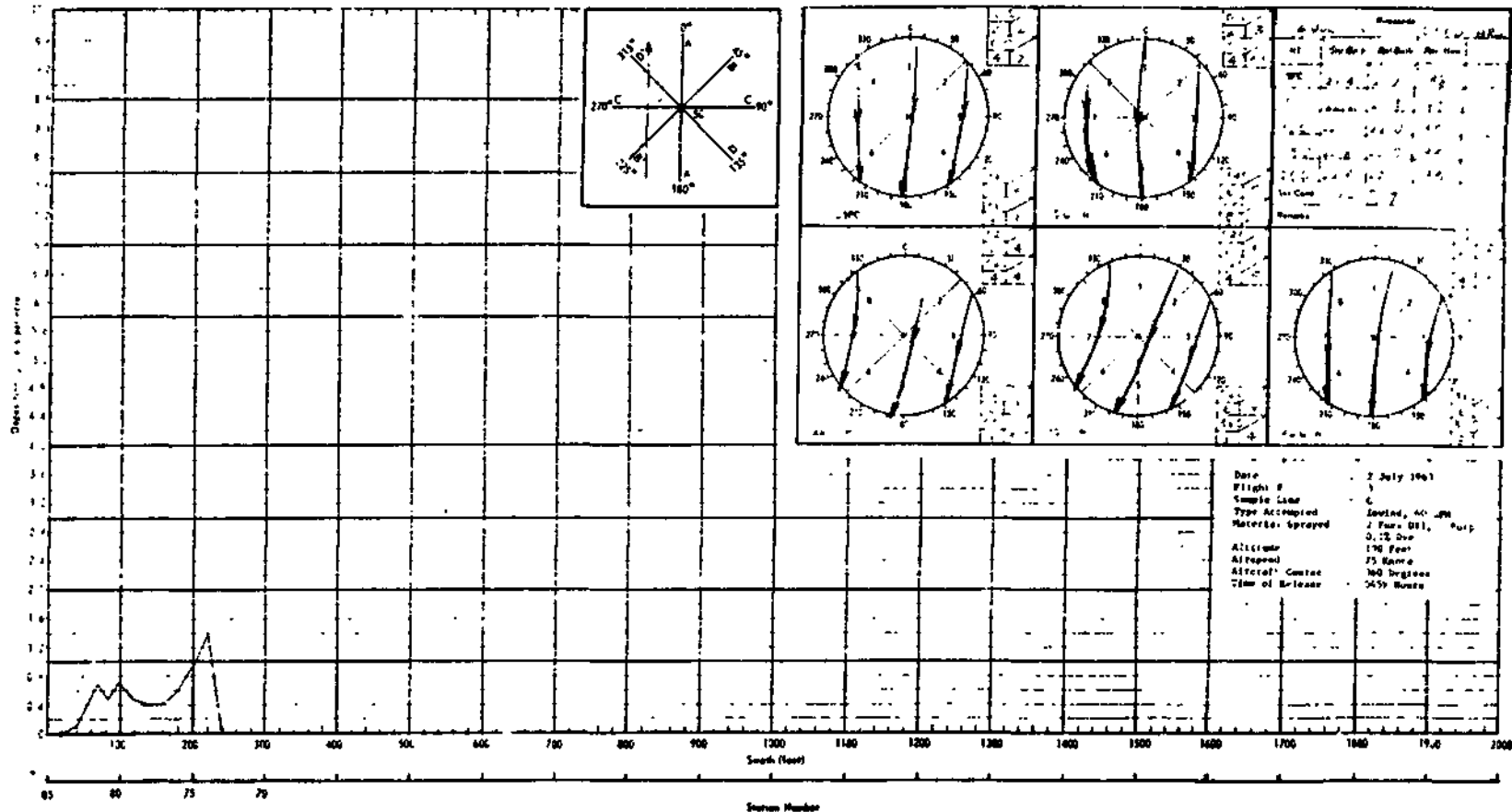
$$\text{Max. Sph Dia.} = \frac{67.72 + 0.1420(3700)}{6.430} = \frac{3700}{6.430} = 593.0 \text{ Microns}$$

Min. Sph. Dia. - 63 Microns

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 CFMDATE: 2 July 1963SYSTEM: HIDALFLIGHT #: 3AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 100 FeetTIME OF RELEASE: 0459 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 7.5 Sec.

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



MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 4PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMSYSTEM: 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			

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

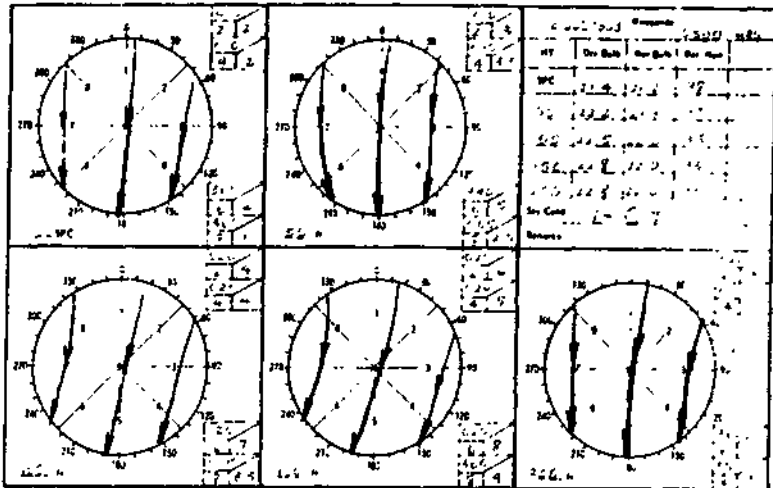
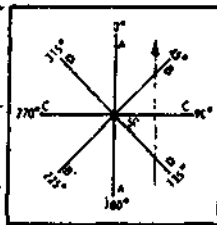
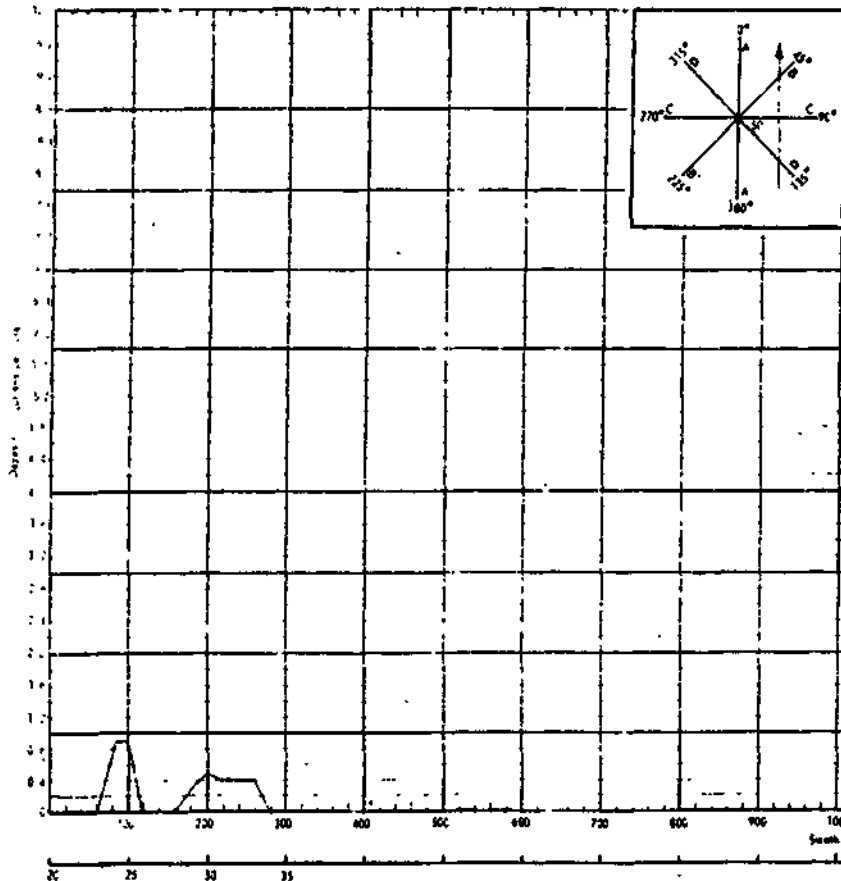
$$\text{Max. Sph. Dia.} = 67.72 \pm 0.1420 (3400) = \frac{3400}{6.430} = 550.4 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 6.1 GPMDATE: 2 July 1963SYSTEM: HIDALFLIGHT #: 4AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 100 FeetTIME OF RELEASE: 0500 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 7 Sec.

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 #: 6
 Sample Line: 1
 Type of Sample: Insect, 45 Gm
 Material Sprayed: 2 Ppt. Oil, 1 Ppt. D, 1 Dye
 Altitude: 100 Feet
 Airspeed: 75 Knots
 Altitude Course: 361 Degrees
 Time of Release: 050 Hours

South (km)

Storm Weather

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2
 FLIGHT #: 5 PAPER: Kromekote, white
 SAMPLE LINE: C MATERIAL: 2 Fuel Oil, 1 Purple
 FLOW RATE: 60 SYSTEM: HTDAL GPM

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			

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

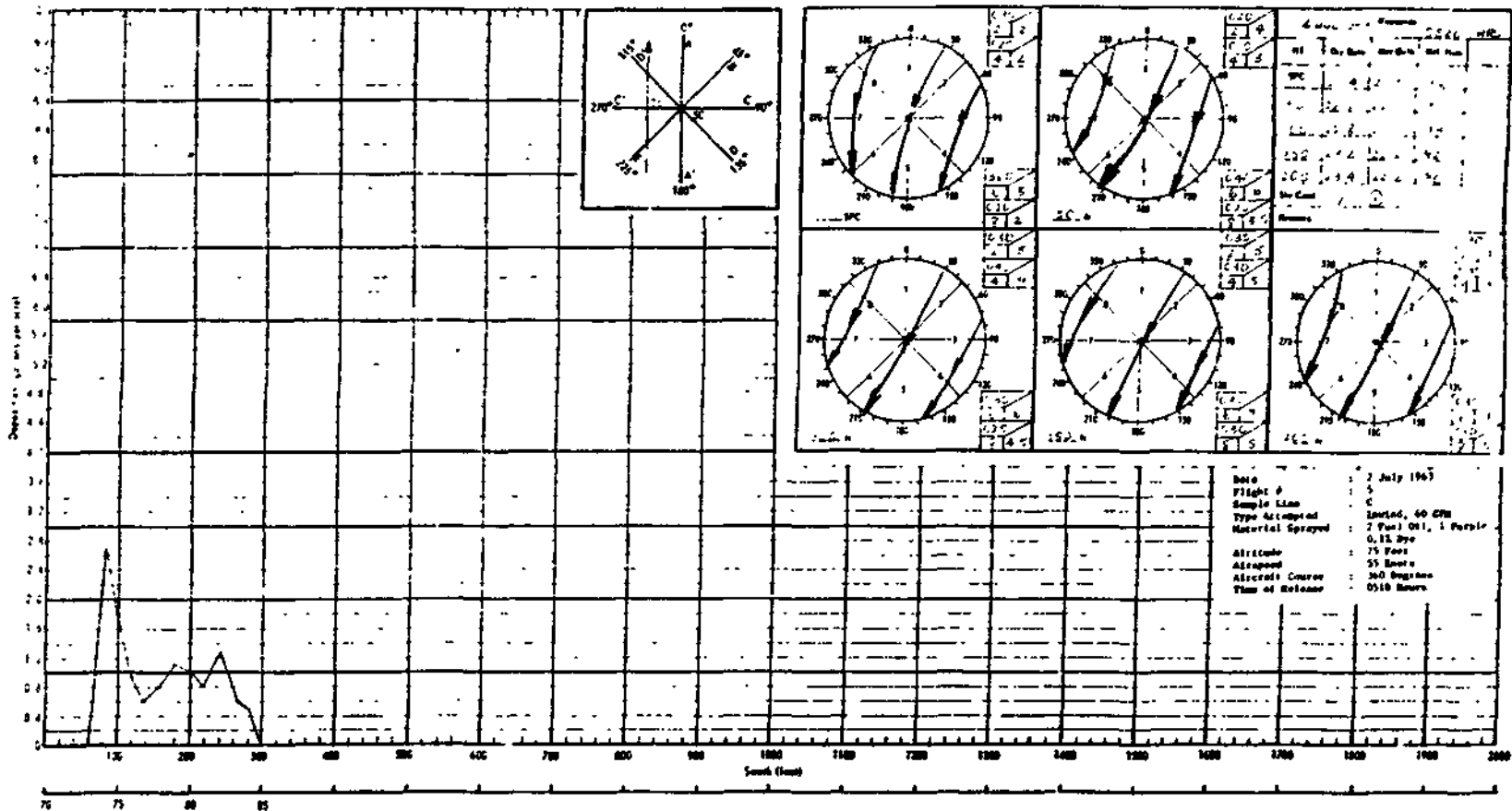
$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420(4000)}{6.430} = \frac{4800}{6.430} = 749.2 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMDATE: 2 July 1963SYSTEM: HIDALFLIGHT #: 5AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0518 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 09 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
Stations 1 - 73	Blank			74	2.7		
				75	1.7		
				76	0.9		
				77	0.6		
				78	0.8		
				79	1.1		
				80	1.0		
				81	0.8		
				82	1.3		
				83	0.6		
				84	0.5		
				85	0.1		
				86	0.0		
				Stations 87 - 100	Blank		

Total 12.0



MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 6PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMSYSTEM: 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			

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

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

$$\text{Min. Sp. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITCONTENTS: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMDATE: 2 July 1963SYSTEM: HIDALRELEASE: 6AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0520 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 08 Sec.

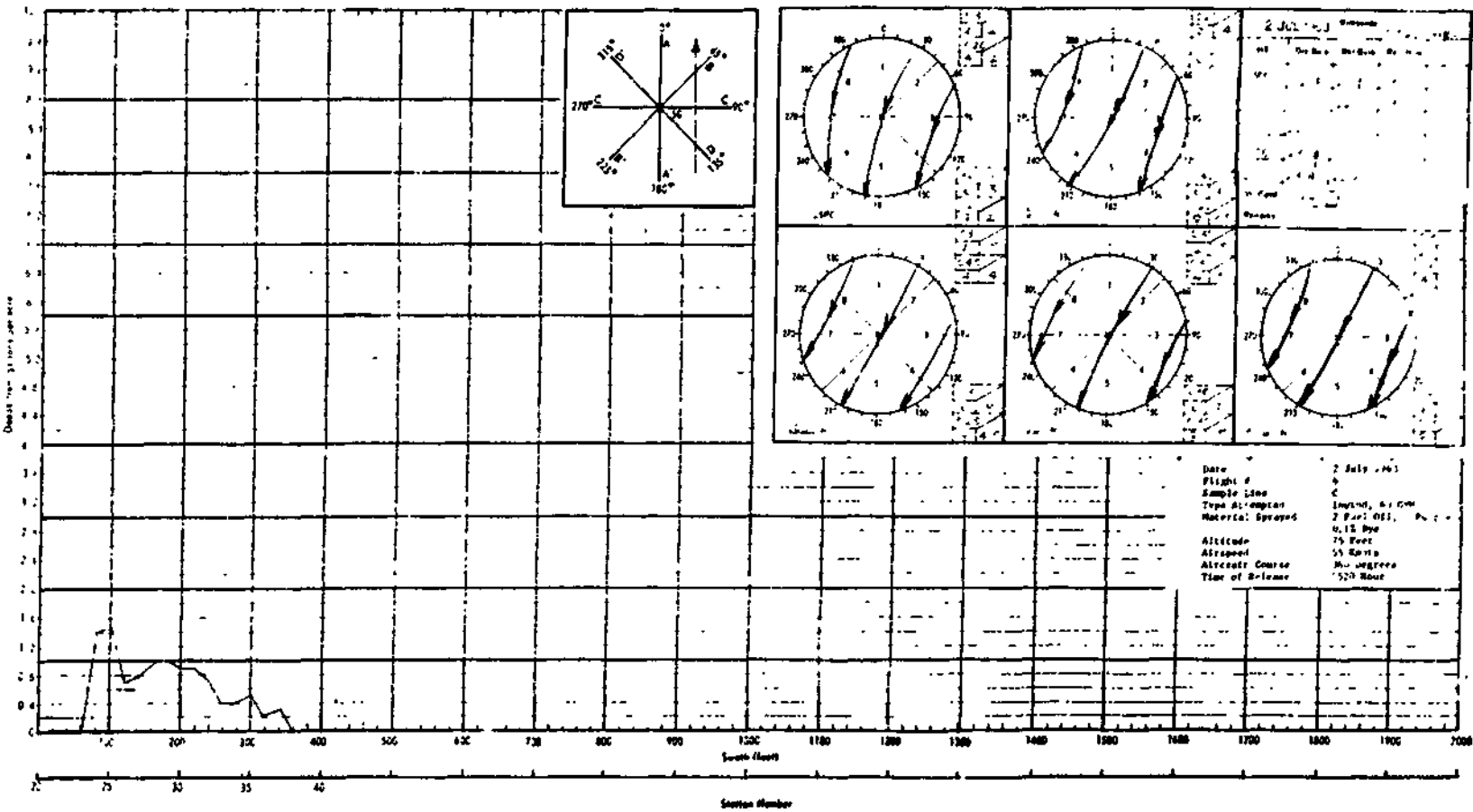
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23	Blank	24	1.4				
		25	1.5				
		26	0.7				
		27	0.8				
		28	1.0				
		29	1.0				
		30	0.9				
		31	0.9				
		32	0.7				
		33	0.4				
		34	0.4				
		35	0.5				
		36	0.2				
		37	0.3				
		Stations 38 - 100	Blank				

Total 16.7

MASS DEPOSITCONTENTS: 2 Fuel Oil, 1 PurpleFLOW RATE: 60 GPMDATE: 2 July 1963SYSTEM: HIDALFLIGHT: 6AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0520 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 08 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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 MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 7PAPER: Kromakote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: HICAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	1	5100*			
77	2	5000			
77	5	4900			
77	3	4800			
77	4	4700	83	1	100(smallest)
77	6	4600			
75	9	4500			
77	8	4400			
77	7	4300			
77	10	4100			

$$\text{MMD} = \frac{67.72(0.1420)(\text{Spot D Max})}{\text{Conv. Factor} = 2.2} = \frac{5100}{6.355} = 352.0 \text{ Microns}$$

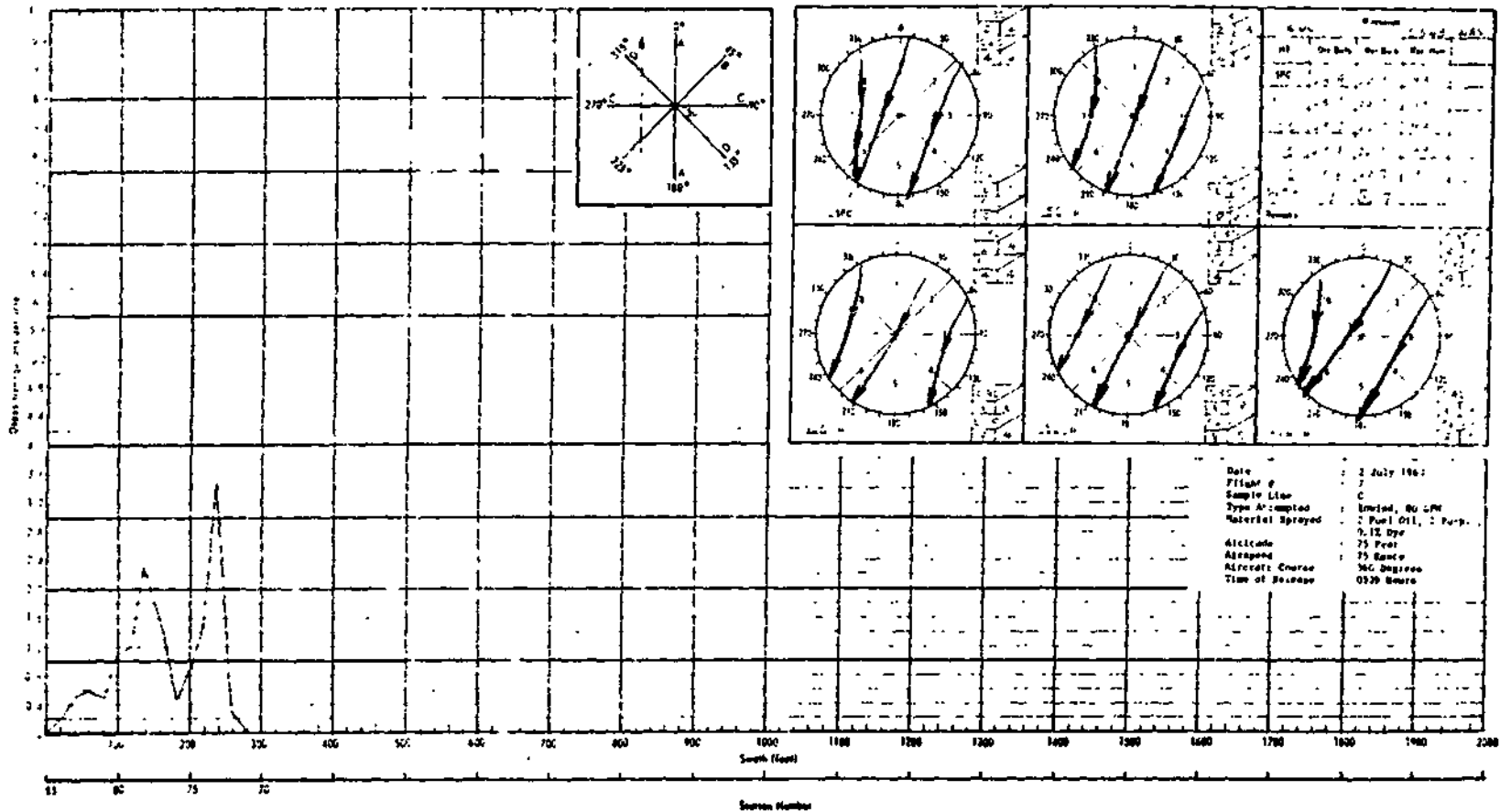
$$\text{Max. Sph. Dia.} = \frac{67.72(0.1420)(5100)}{6.430} = \frac{5100}{6.430} = 791.8 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 60 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE 2 July 1963SYSTEM: H/DALFLIGHT #: 7AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0539 HourAIRCRAFT COURSE: 360 DegreesDURATION: 08 Sec.

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	2.2
						79	3.1
						80	2.1
						81	3.5
						82	1.6
						83	0.5
						84	0.2
						Stations 85 - 100	Blank

Total 14.5



MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2 -FLIGHT #: 8PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

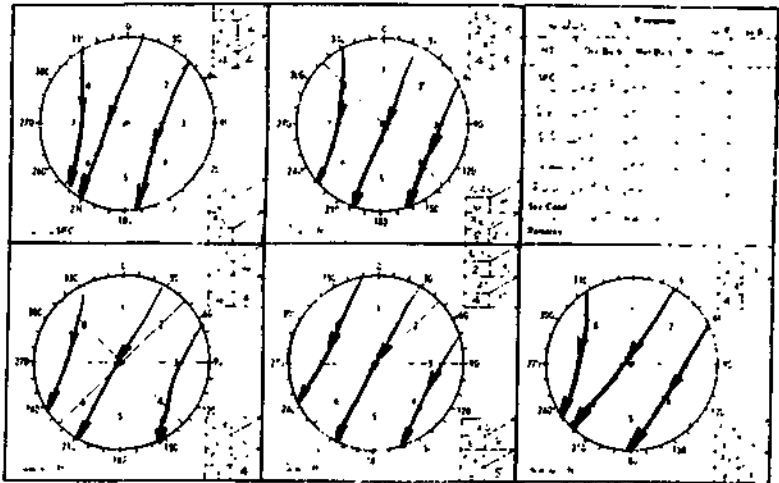
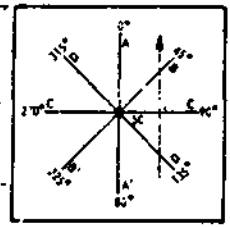
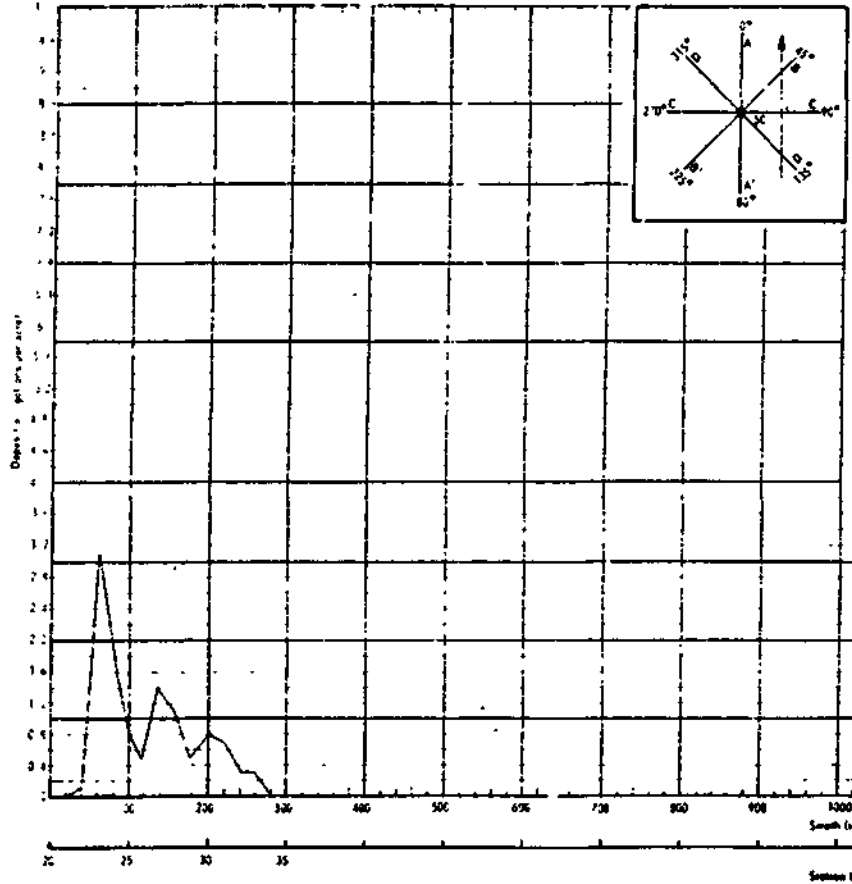
$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420(5000)}{6.430} = \frac{5000}{6.430} = 777.6 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 2 July 1963SYSTEM: HIDALFLIGHT #: fAIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0540 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 07 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21	Blank	22	0.1				
		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: 7 July 1953
 Flight #: 8
 Sample Line: C
 Type Attempted: Emission, No GPS
 Material Sprayed: 2 Fuel Oil, 70 p.p.
 A residue: 1, 12 One
 Atopped: 75 Hours
 At: var Lower: 365 Degree
 Time: 10:00

Section Number

Section Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 9PAPER: Kromekote, whiteSAMPLE LINE: DMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420(5900)}{6.558} = \frac{5900}{6.558} = 899.7 \text{ Microns}$$

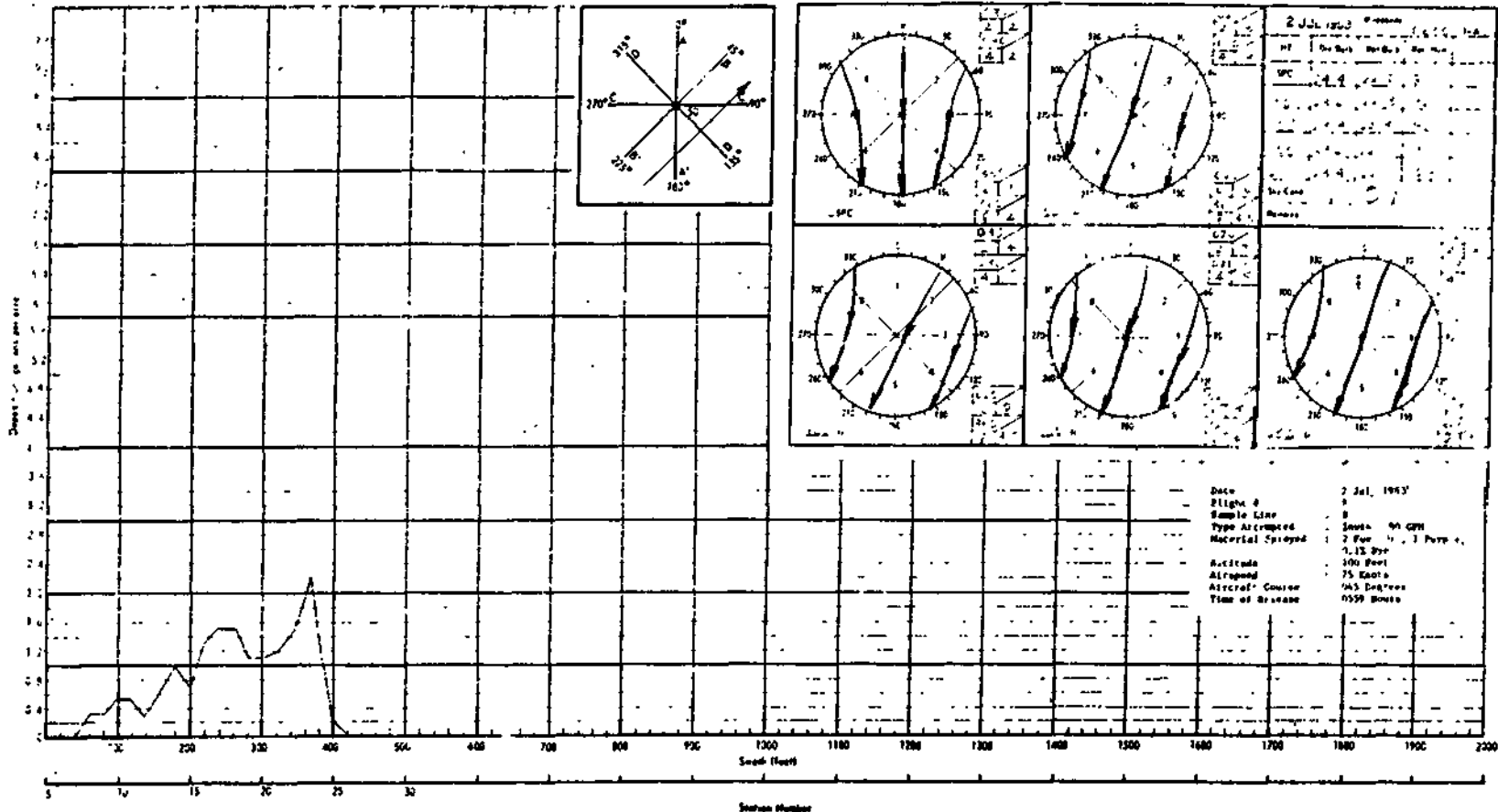
$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 2 July 1963SYSTEM: TIDALFLIGHT #: 9AIRSPEED: 75 KnotsSAMPLE LINE: DALTITUDE: 100 FeetTIME OF RELEASE: 0550 HoursAIRCRAFT COURSE: 045 DegreesDURATION: 08 Secs.

<u>STATION G.P.A.</u>	<u>STATION G.P.A.</u>	<u>STATION G.P.A.</u>	<u>STATION G.P.A.</u>
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



MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 10PAPER: Kromekote, whiteSAMPLE LINE: DMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

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

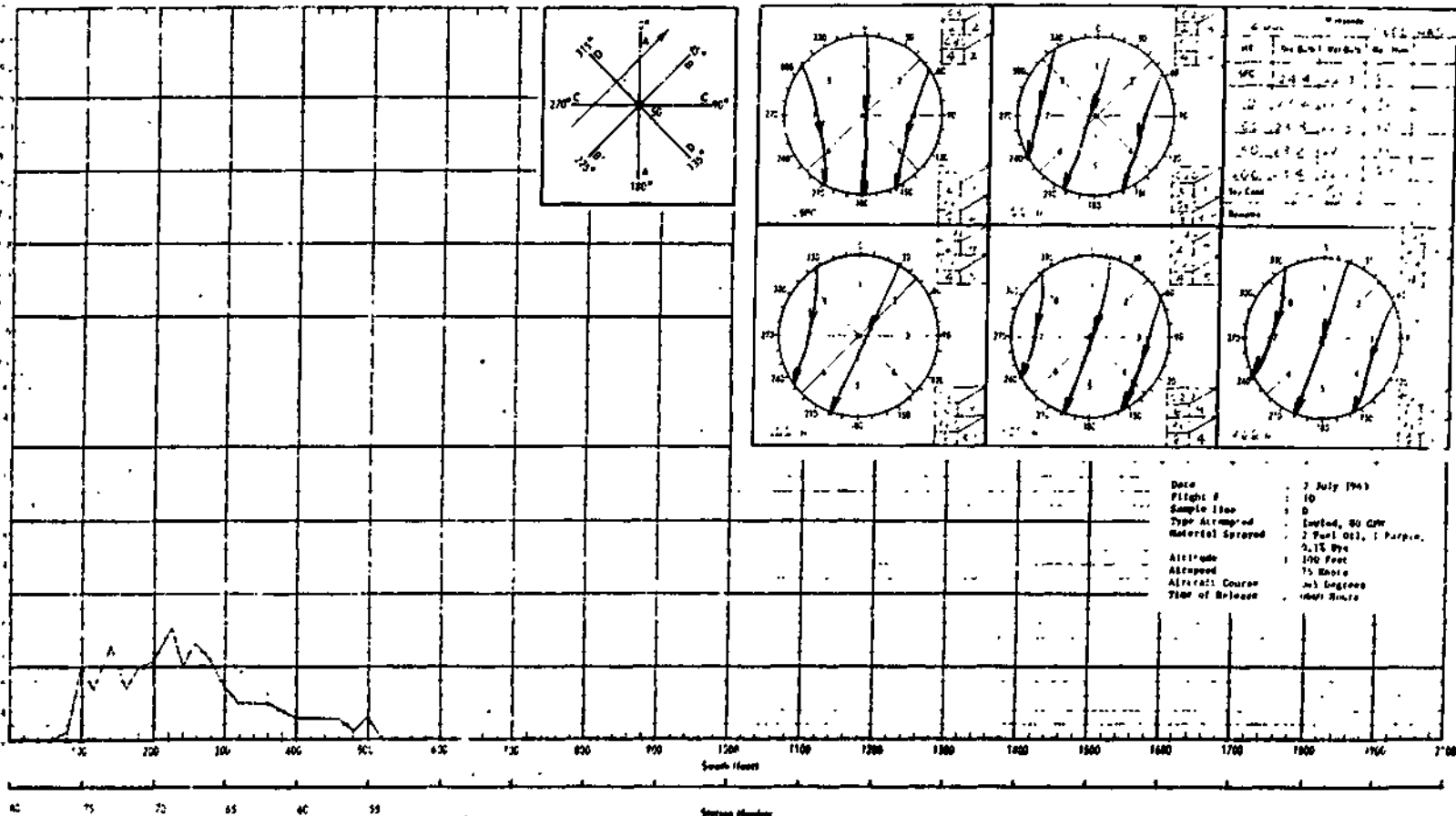
$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIALS: 2 Fuel Oil, 1 PurpleFLOW RATE: 8.1 GPMDATE: 2 July 1963SYSTEM: HIDALFLIGHT #: 10AIRSPEED: 75 KnotsSAMPLE LINE: DALTITUDE: 1.0 FeetTIME OF RELEASE: 0600 HoursAIRCRAFT COURSE: 045 DegreesDURATION: 08 Sec.

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

Depth in feet below surface



60 75 70 65 60 55

Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT NO: 11PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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(callest)
73	6	3900			
72	4	3800			
73	8	3700			
71	10	3600			
73	9	3500			

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

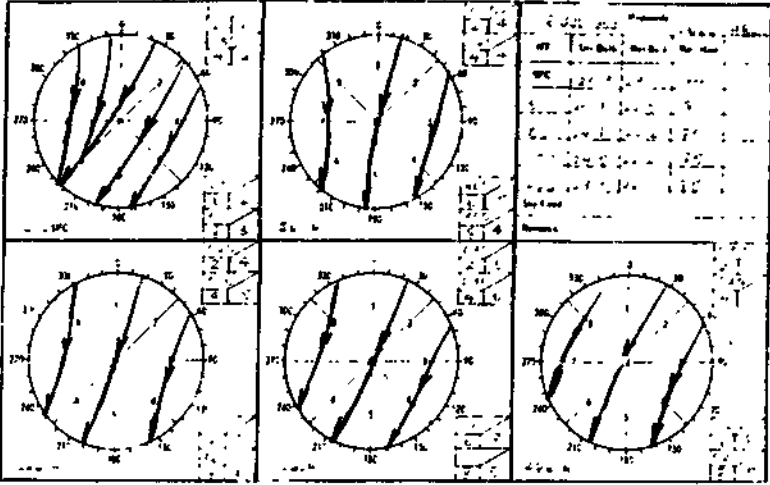
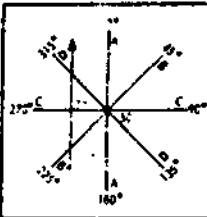
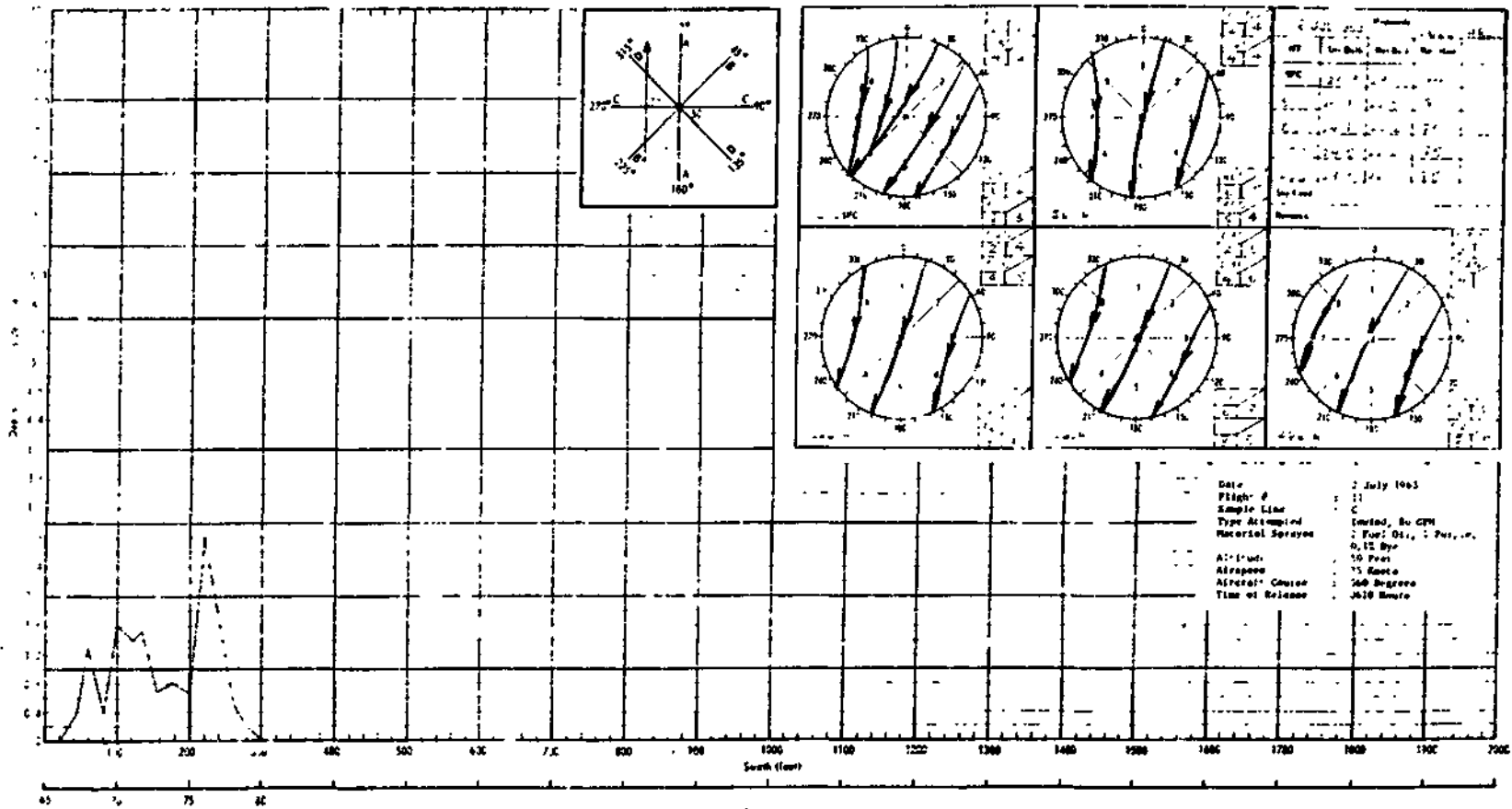
$$\text{Max. Sph. Dia.} = 67.72 + 0.1420(5400) = \frac{5400}{6.430} = 829.1 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

WASS J. POSI1MATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 2 July 1963SYSTEM: HIDALWEIGHT #: 11AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 50 FeetTIME OF RELEASE: 0618 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 08 Sec.

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 Aircraft : Cessna, 40 GPH
 Nocturnal Species : Fuel Oil, 1 Per...
 0.15 Byr
 Altitude : 50 Feet
 Airspeed : 75 Knts
 Altitude Course : 260 Degree
 Time of Release : 1610 Hours

South (feet)

Section Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 12PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: RIDAL

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

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

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

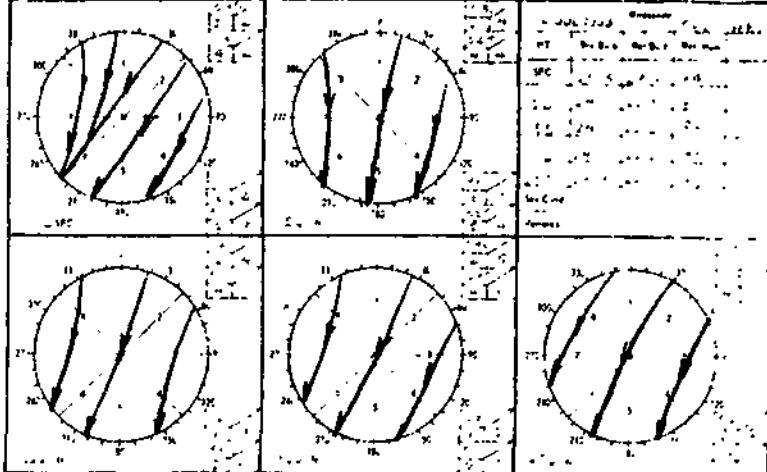
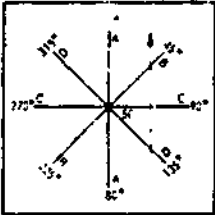
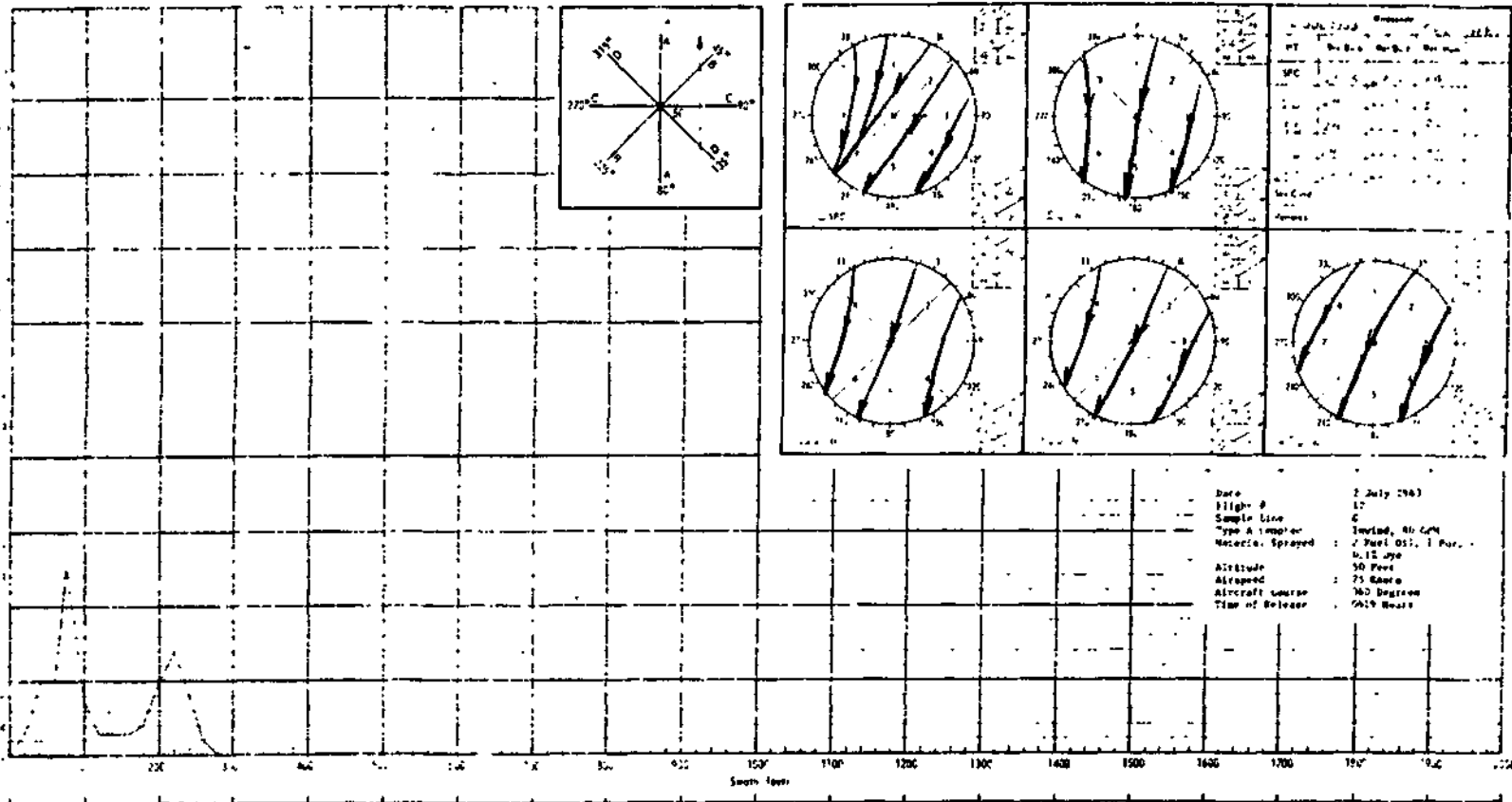
$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

RELEASE REPORTCONTENTS: 10.1 Oil, 1 SampleFLOW RATE: 2.0 galsDATE: 1 July 1965SYSTEM: HDARELEASE POINT: 17AIRSPEED: 75 knotsWIND DIRECTION: CALTITUDE: 9 100'TIME OF RELEASE: 0519 hoursAIRCRAFT COURSE: 001 degreesOPERATION: 07 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 16	Blank	17	1.2				
		18	1.0				
		19	1.4				
		20	1.0				
		21	0.4				
		22	0.3				
		23	0.3				
		24	0.2				
		25	0.7				
		26	1.5				
		27	1.0				
		28	1.0				
		29	1.3				

Stations 30 - 100 Blank

% Recovery - 42.7Total 1.1



Date	2 July 1963
Flight #	17
Sample Line	C
Type A Sampler	Lownd, 40 CPM
Nozzle Sprayed	2 Fuel Oil, 1 Par.
	4, 12 eye
Altitude	50 Feet
Airspeed	75 Knts
Aircraft Course	360 Degree
Time of Release	0619 Hours

South Feet

Scale - 10 Miles

H-34/HIDAL GROUND FLOW & FLIGHT DATADATE CALIBRATED: 1 July 1963DATE TEST FLOWN: 5 July 1963LIQUID SPRAYED: 2 Fuel Oil, 1 PurpleTOTAL NOZZLES OPEN: 60NOZZLE TYPE: 8015LIQUID TEMP: ----DURATION OF SPRAY: 30 Sec.PUMP PRESSURE: 32 PSITOTAL AMOUNT SPRAYED: 38.5 Gal.BOOM PRESSURE: 30 PSIFLOW RATE CALIBRATED: 77.0 GPMOPERATIONAL DATA DURING FLIGHT

Above information same for Runs 1 - 8.

MASS DEPOSITMATERIALS: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMDATE: 5 July 1963SYSTEM: HIDALLIGHT NO: 1AIRSPEED: 55 KnotsPIPE LINE: CALTITUDE: 100 FeetTIME OF RELEASE: 0439 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 08 Sec.

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

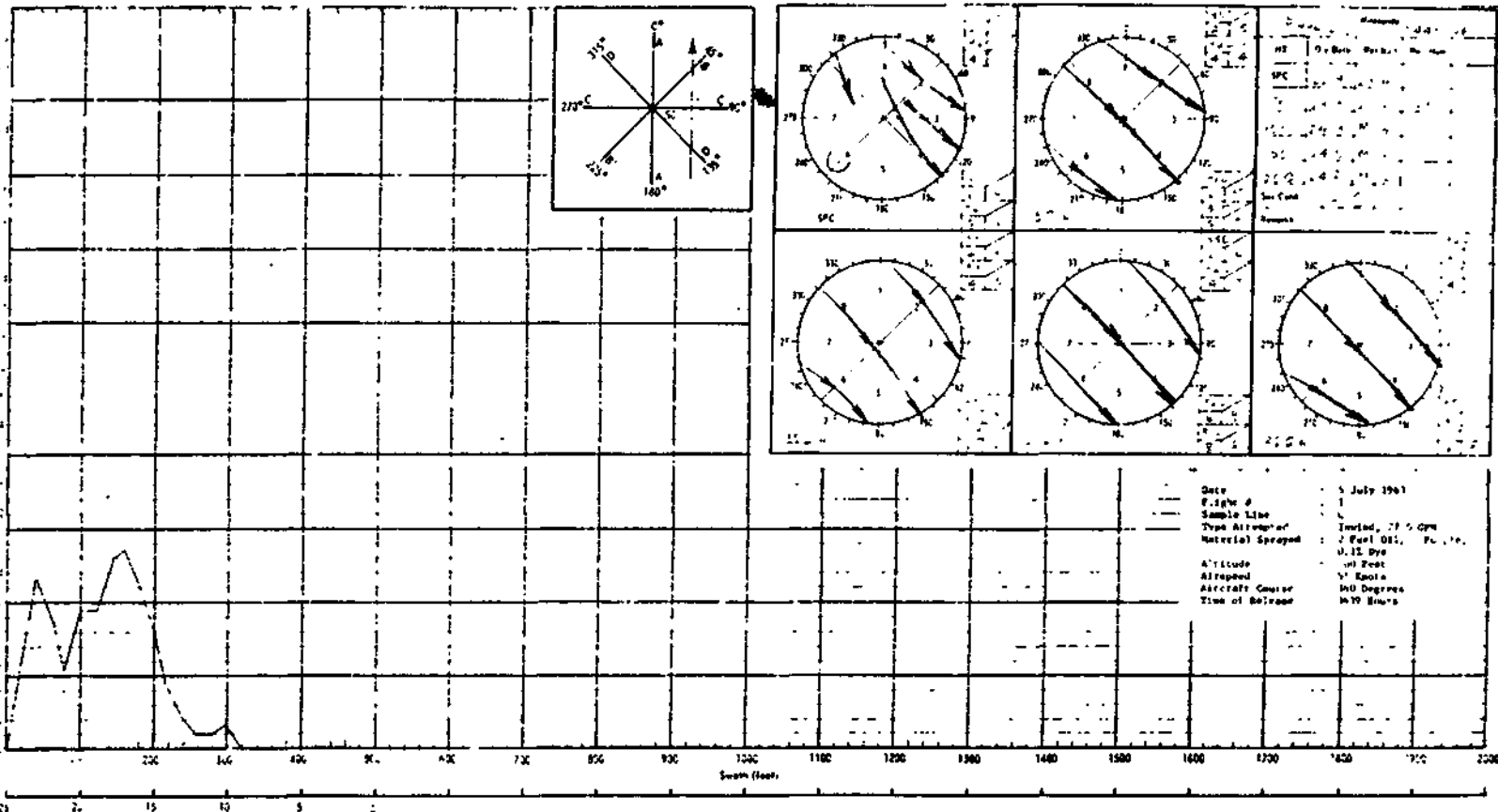
Stations 1 - 9 Blank

10 0.3
 11 0.2
 12 0.2
 13 0.5
 14 0.2
 15 1.6
 16 2.3
 17 2.7
 18 2.6
 19 1.3
 20 1.9
 21 1.1
 22 1.7
 23 2.3
 24 1.3

Stations 25 - 1.0 Blank

Total 21.5

Depth (feet)



Swath Number

MASS MEDIAN: DIAMETER

DATE: 5 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 2PAPER: Kronkote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMSYSTEM: 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			

$$\text{MBD} = \frac{67.72 \pm 0.1420 (\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{5200}{6.355 \times 2.2} = 364.0 \text{ Microns}$$

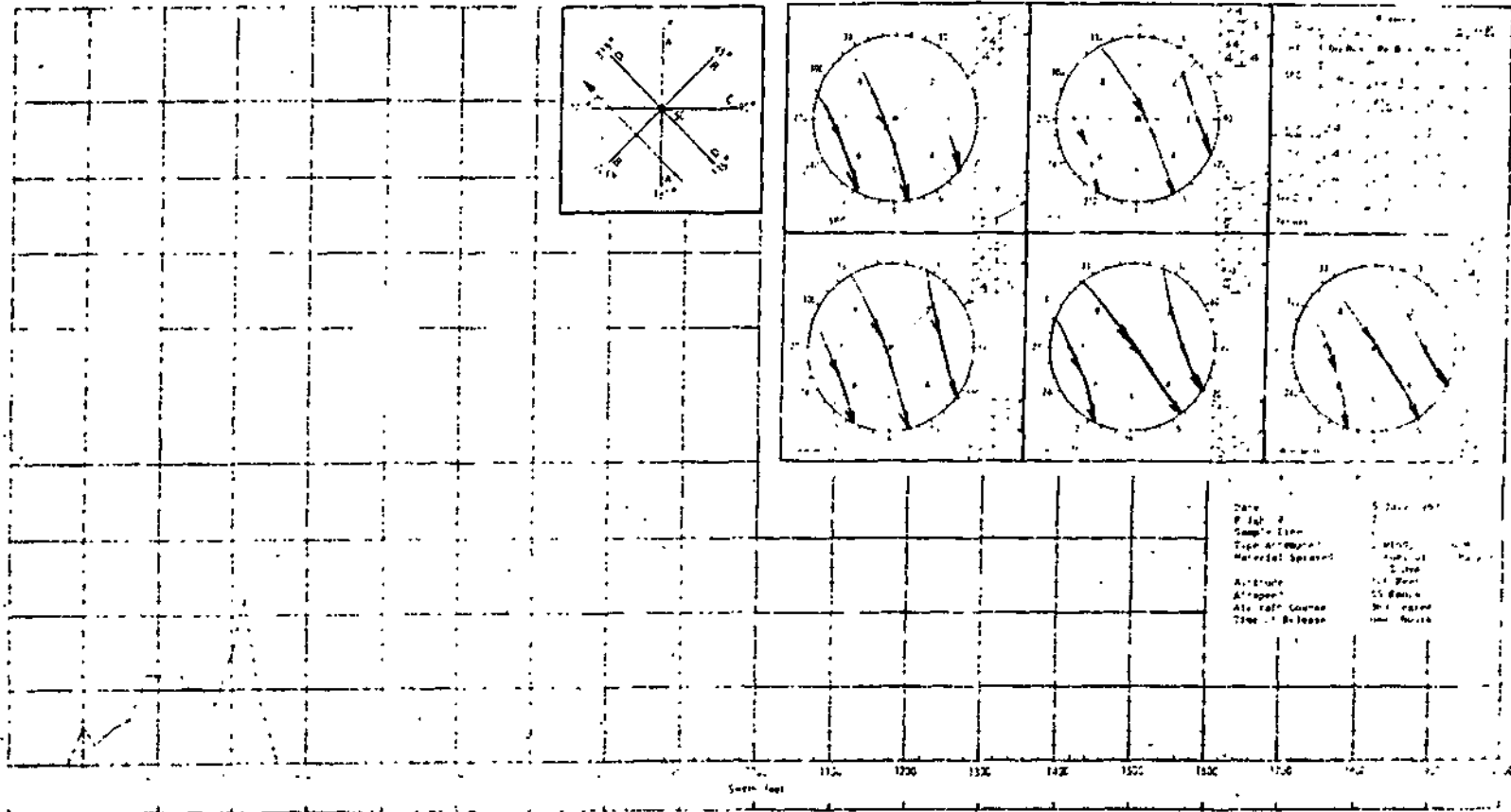
$$\text{Max. Sph. Dia.} = \frac{67.72 \pm 0.1420 (5200)}{6.430} = \frac{5200}{6.430} = 800.9 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMDATE: 5 July 1963SYSTEM: HIDALFLIGHT #: 2AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 100 FeetTIME OF RELEASE: 0441 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 10 Sec.

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



Station Number

MASS DEPOSIT

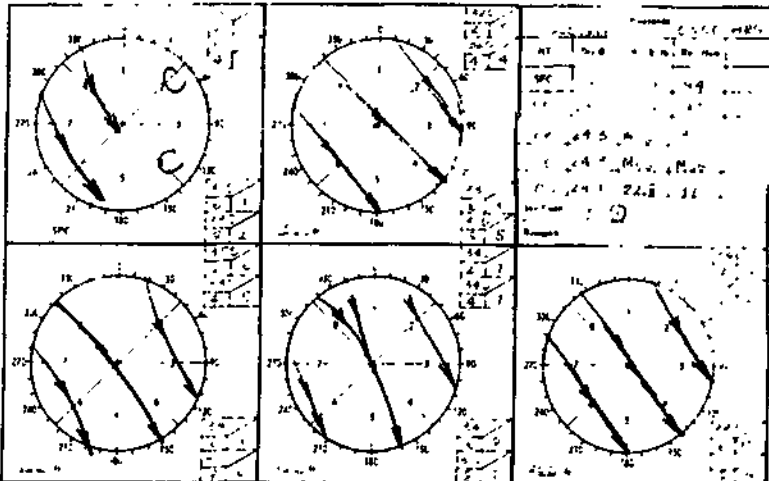
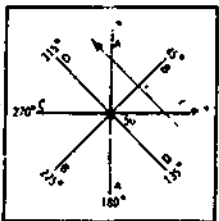
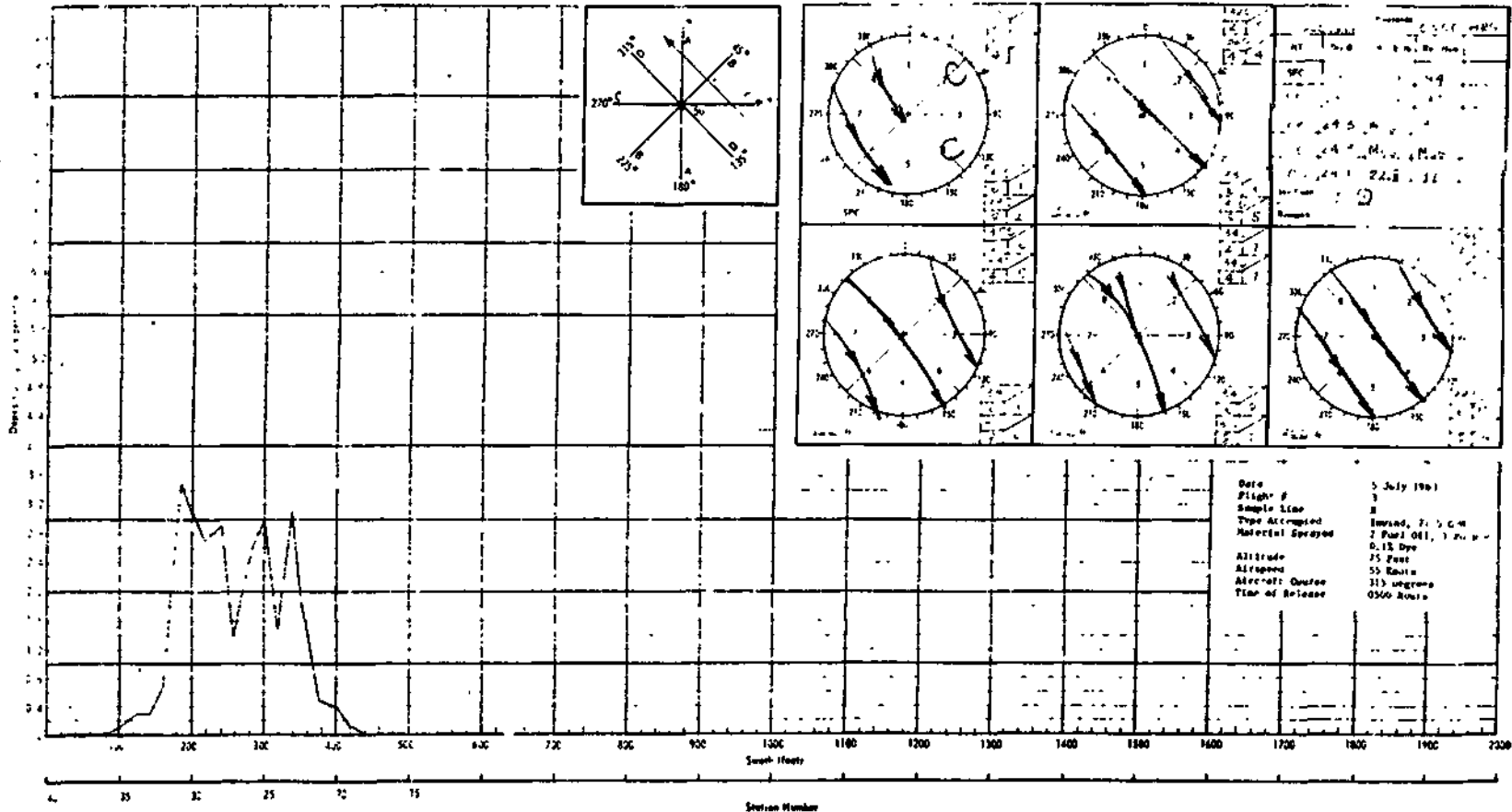
No. WAL 2 Ford 21 1 Purple FLOW RATE 77.0 GPM
 Date July 1963 SYSTEM HIDAL
 PLANT # 3 AIRSPEED 55 Knots
 SAMPLE LINE B ALTITUDE 76 Feet
 TIME OF RELEASE 0900 Hour AIRCRAFT COURSE 315 Degrees
 DURATION: 18 Sec.

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 17 - 100 Blank

% Recovery - 89.8

Total 25.1



Date	5 July 1961
Flight #	3
Sample Line	3
Type Aircraft	Insand, F-5C-4
Material Sprayed	7 Fuel Oil, 1 1/2 ...
Altitude	0.15 Dye
Airspeed	75 Feet
Altitude	55 Meters
Altitude	115 meters
Time of Release	0500 Hours

35 32 25 12 15

Station Number

MASS MEDIAN DIAMETER

DATE: 5 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 4PAPER: Kromelote, whiteSAMPLE LINE: BMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMSYSTEM: HIDAL

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			
77	9	3400			
79	10	3300			
78	8	3200			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

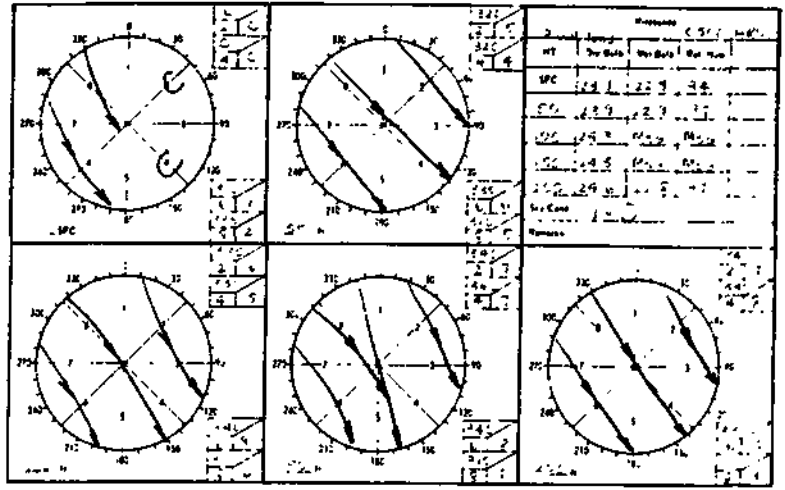
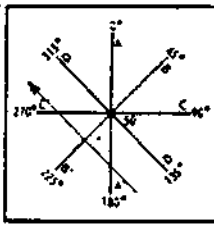
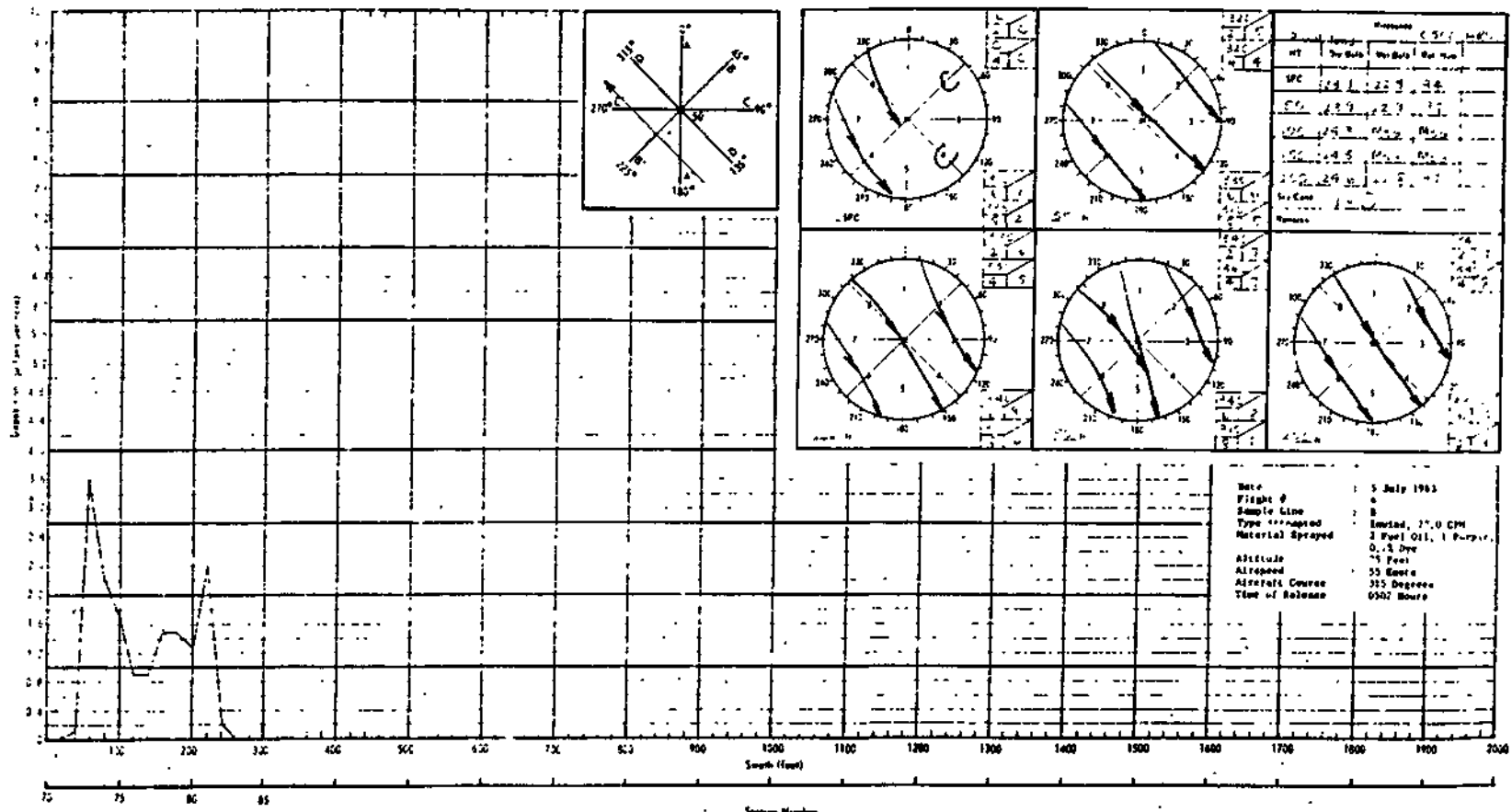
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMDATE: 5 July 1963SYSTEM: HIDALFLIGHT #: 4AIRSPEED: 55 KnotsSAMPLE LTR: BALTITUDE: 75 FeetTIME OF RELEASE: 0502 HoursAIRCRAFT COURSE: 315 DegreesDURATION: 11 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 70 - 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**



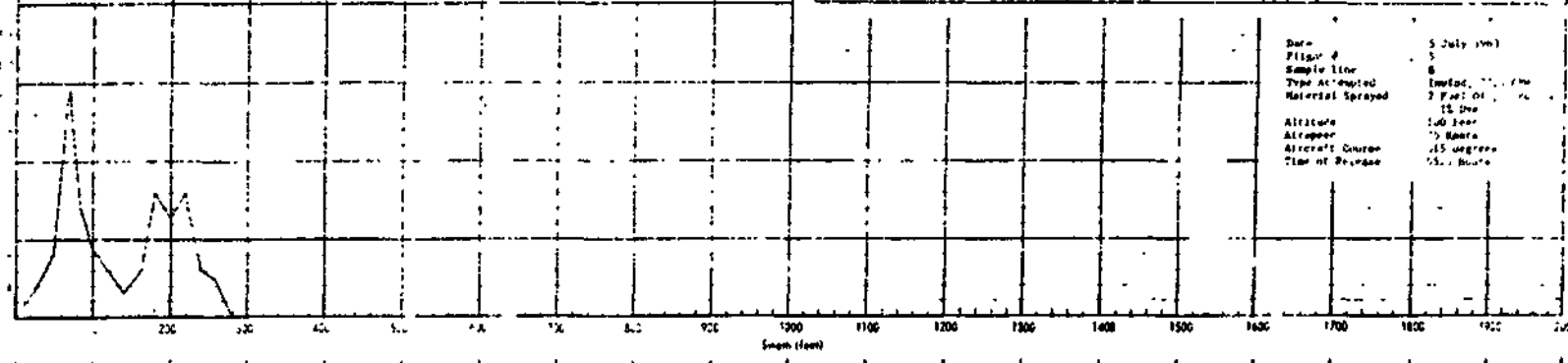
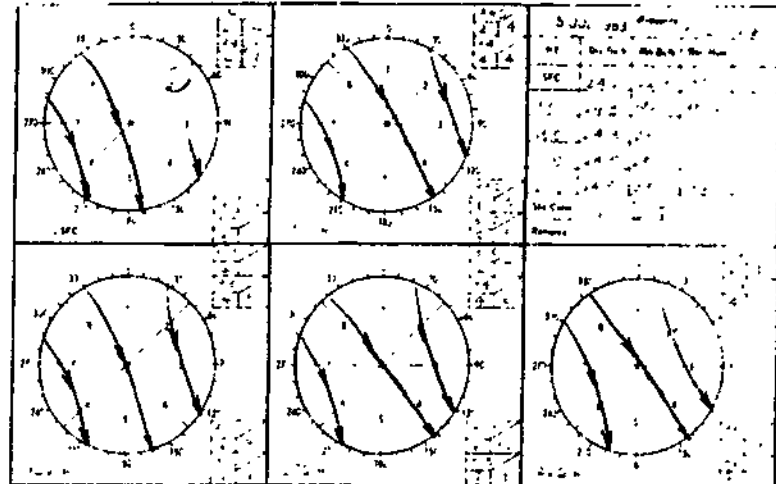
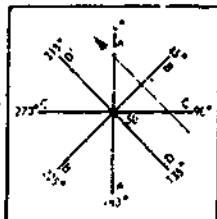
Reference			
HT	No. Date	No. Date	No. Date
100	1	22 9	2 8
200	1	2 3	2 1
300	1	1 2	1 2
400	1	1 2	1 2
500	1	1 2	1 2

Date : 5 July 1963
 Flight # : 6
 Sample Line : B
 Type : Unaged
 Material Sprayed : Emulsa, 75.0 GPM
 3 Fuel Oil, 1 Purpur,
 0.3 Dye
 75 Feet
 Altitude : 55 Feet
 Aircraft Course : 335 Degree
 Time of Release : 0507 Hours

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMDATE: 5 July 1963SYSTEM: HIDALFLIGHT #: 5AIRSPEED: 75 KnotsSAMPLE LINE: BALTITUDE: 100 FeetTIME OF RELEASE: 0520 HoursAIRCRAFT COURSE: 315 DegreesDURATION: 08 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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: 5 July 1961
 Flight: 5
 Sample line: 6
 Type Aircraft: Invicta
 Material Sprayed: 2 fuel oil
 Altitude: 15,000 ft
 Altitude: 10,000 ft
 Aircraft Course: 15 degrees
 Time of Release: 15:00 hours

MASS MEDIAN DIAMETER

DATE: 5 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 6PAPER: Kromekote, whiteSAMPLE LINE: BMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMSYSTEM: 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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

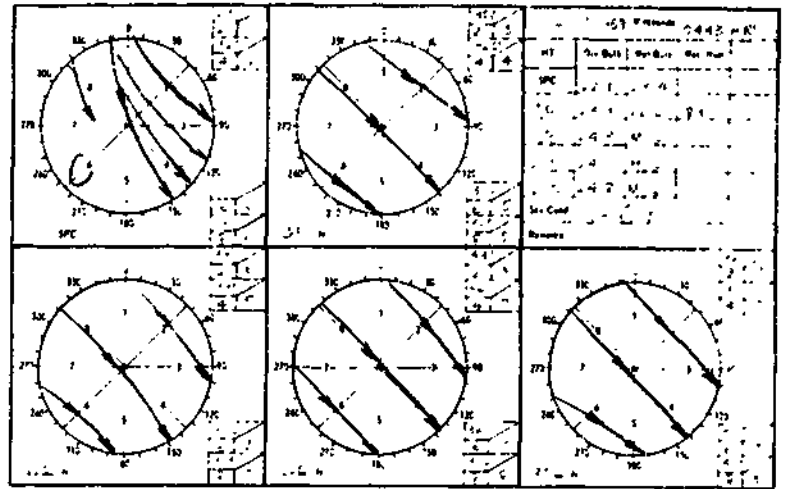
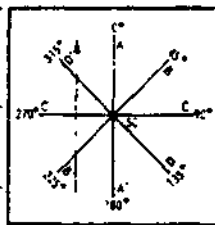
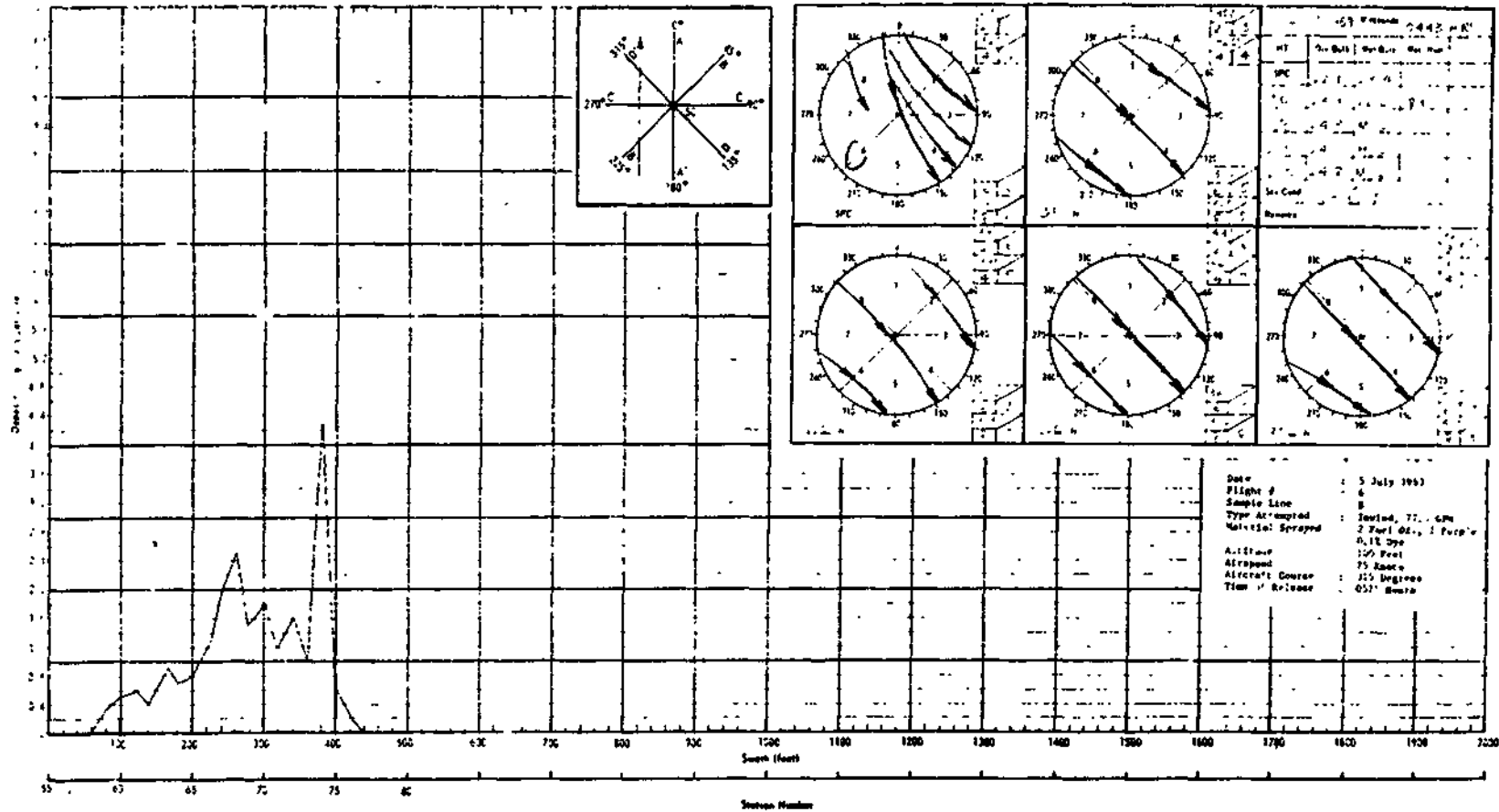
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 77.3 GPM
 DATE: 5 July 1963 SYSTEM: HIDAL
 FLIGHT #: 6 AIRSPEED: 75 Knots
 SAMPLE LINE: B ALTITUDE: 100 Feet
 TIME OF RELEASE: 0521 Hours AIRCRAFT COURSE: 315 Degrees
 DURATION: 10 Sec.

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 3.6
 83 1.5
 84 1.3
 85 3.5

Stations 86 - 100 Blank

Total 12.7



Date : 5 July 1963
 Flight # : 8
 Sample Line : B
 Type Acquired : Towed, 77.5 GPH
 Net(s) Strapped : 2 Fast 06, 1 Fast 0
 Altitude : 150 Feet
 Aircraft : 75 Knots
 Aircraft Course : 215 Degree
 Time of Release : 0517 Hours

55 60 65 70 75 80
 Swath (feet) 100 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000
 Station Number

MASS MEDIAN DIAMETER

DATE: 5 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 7PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 77.0 GPMSYSTEM: 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			

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

$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420(1000)}{6.430} = \frac{3000}{6.430} = 493.7 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

Map 22

Name: Ball-11, 1 Purple Time: 11.0 021
 Date: July 1963 SYSTEM: BIPAL
 Line: 7 ALTITUDE: 75 Feet
 SAMPLE LINE: 2 ALTITUDE: 75 Feet
 TIME (1/2 hr. Sec.) (63) hours AERIAL COURSE: 160 Degrees
 DURATION: 09 Sec.

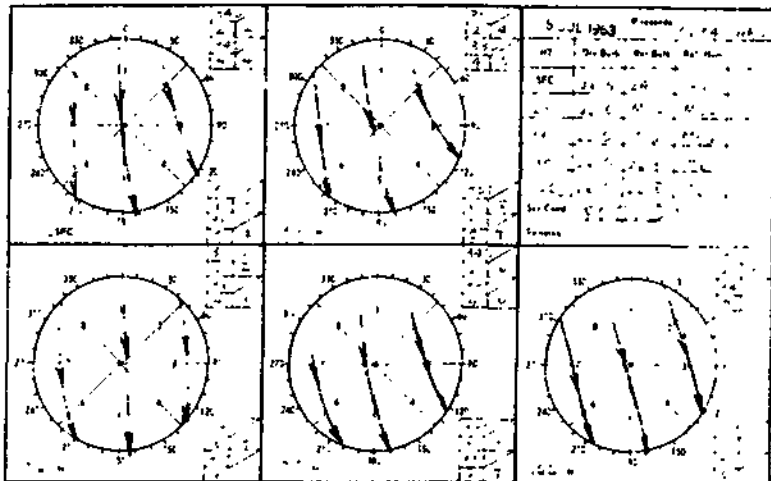
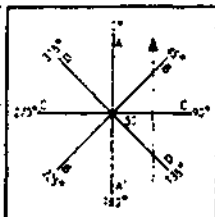
STA. NO. G.P.A. STATION G.P.A. STATION G.P.A. STA. NO. G.P.A.
 STATION 1 - 10 Blank

11 0.0
 12 0.2
 13 0.4
 14 0.3
 15 0.4
 16 0.7
 17 0.5
 18 0.8
 19 0.7
 20 0.7
 21 0.8
 22 0.7
 23 0.7
 24 0.7
 25 0.7

Stations 15 - 19 Blank

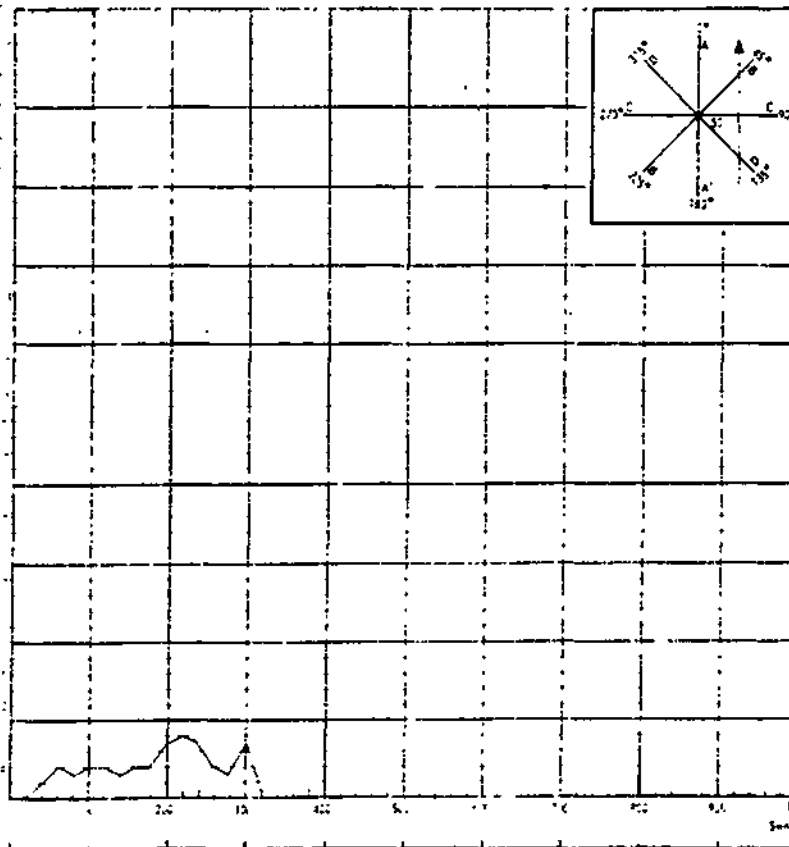
% Recovery - 27.8

Total 6.



5 JUL 1963
 Date
 Flight #
 Sample #
 Type Aircraft
 Material Sprayed
 Altitude
 Abandon
 Abandon Location
 Time of Release

Date 5 July 1963
 Flight # C
 Sample # 1000, 11, 12
 Type Aircraft F-105
 Material Sprayed 1000, 11, 12
 Altitude 75 Feet
 Abandon 15 Knots
 Abandon Location 30° Degree
 Time of Release 08:15 Hours



Station Number

MASS DEPOSIT

MATERIAL 2 Fuel Oil 1 Purple FLOW RATE 77.0 GPM
 DATE 2 July 1963 SYSTEM HIDAL
 FLIGHT # 8 AIRSPEED 75 Knots
 SAMPLE LINE C ALTITUDE 75 Feet
 TIME OF RELEASE 0632 Hours AIRCRAFT COURSE 360 Degrees
 DURATION 12 Sec.

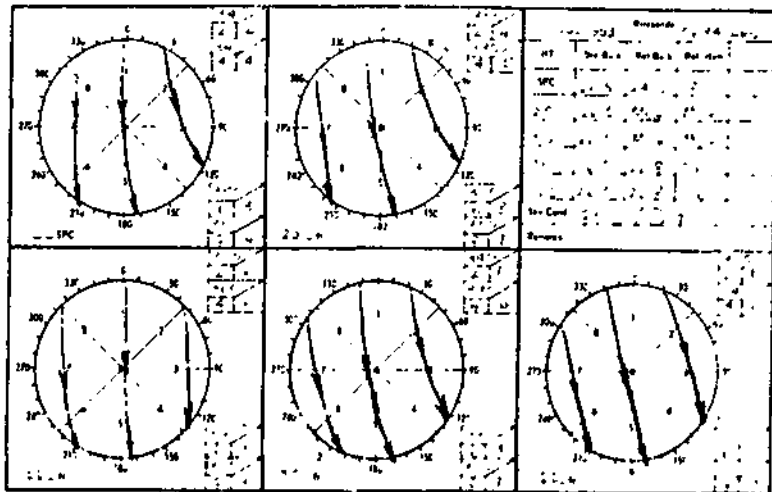
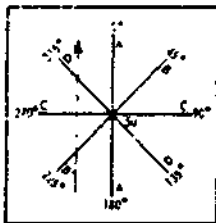
STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A.
 Stations 1 - 53 Blank

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

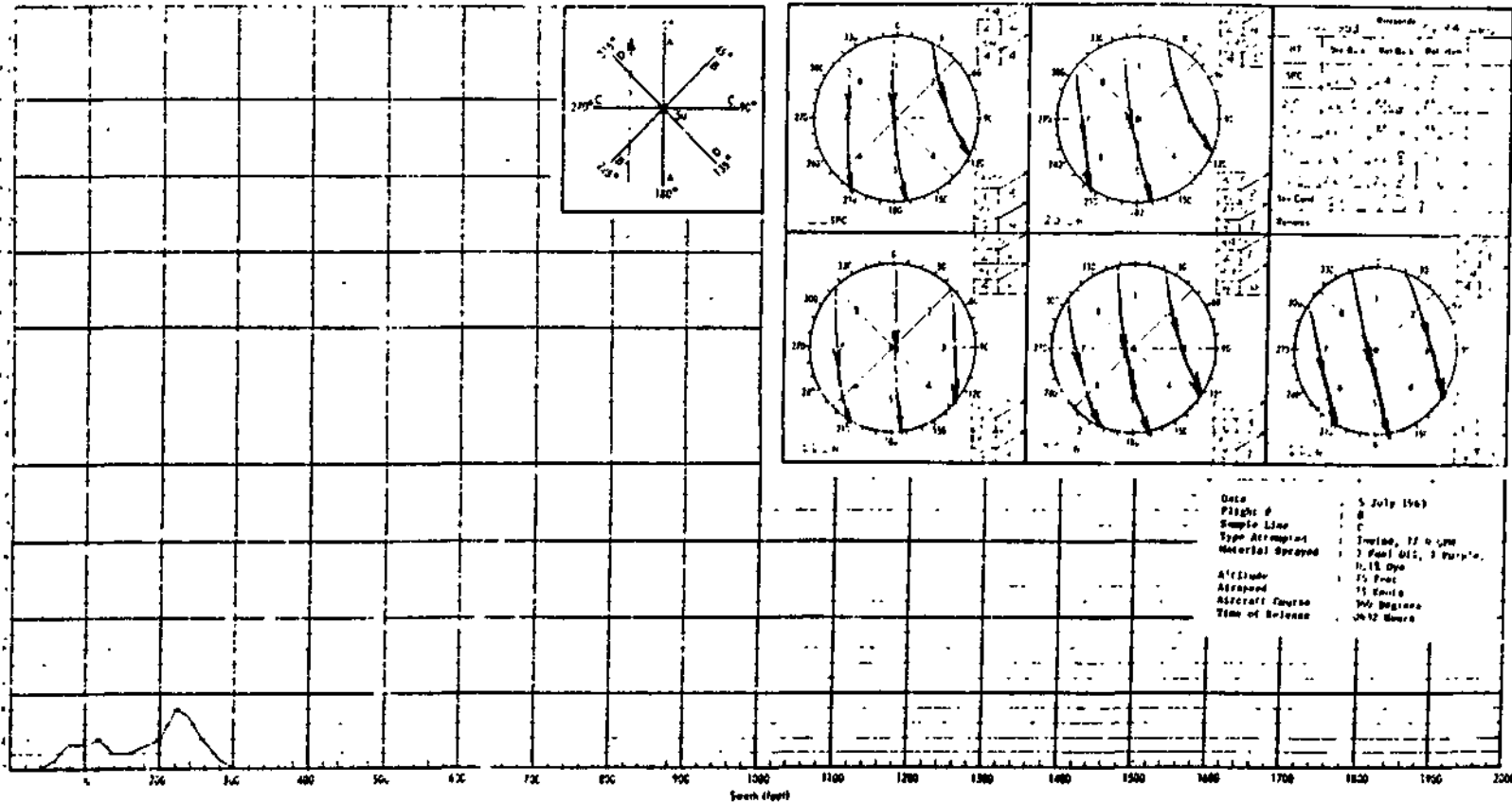
% Recovery - 18.3

Total 4.2



Observations			
HT	Dir. S.W.	Dir. S.E.	Dir. S.W.
100			
105			
110			
115			
120			
125			
130			
135			
140			
145			
150			
155			
160			
165			
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185			
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225			
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245			
250			
255			
260			
265			
270			
275			
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300			
305			
310			
315			
320			
325			
330			
335			
340			
345			
350			
355			
360			

Date: 5 July 1963
 Flight #: B
 Sample Line: C
 Type Aircraft: Twinjet, T2 R, 50W
 Meteorol. Equipment: 2 Fanal, 2 Bar, 1
 Altitude: 15,000 ft
 Aircraft: 15 Miles
 Aircraft Course: 300 Degrees
 Time of Release: 0612 Hours



75 70 65

Station Number

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: <u>6 July 1963</u>	DATE TEST FLOWN. <u>7 July 1963</u>
LIQUID SPRAYED: <u>2 Fuel Oil, 1 Purple</u>	TOTAL NOZZLES OPEN: <u>60</u>
NOZZLE TYPE: <u>8G10</u>	LIQUID TEMP: <u>39° C</u>
DURATION OF SPRAY: <u>30</u> <u>Sec.</u>	BOOM PRESSURE: <u>54-55</u> <u>PSI</u>
TOTAL AMOUNT SPRAYED: <u>35.5</u> <u>Gal.</u>	FLOW RATE CALIBRATED: <u>71</u> <u>GPM</u>

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 1 - 6.

DATE CALIBRATED: <u>6 July 1963</u>	DATE TEST FLOWN <u>7 July 1963</u>
LIQUID SPRAYED. <u>2 Fuel Oil, 1 Purple</u>	TOTAL NOZZLES OPEN <u>60</u>
NOZZLE TYPE: <u>8015</u>	LIQUID TEMP: <u>33.5° C</u>
DURATION OF SPRAY: <u>30</u> <u>Sec.</u>	PUMP PRESSURE. <u>38-28</u> <u>PSI</u>
TOTAL AMOUNT SPRAYED <u>39.5</u> <u>Gal.</u>	FLOW RATE CALIBRATED: <u>80</u> <u>GPM</u>

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 1963CONVERSION FACTOR: 2.2FLIGHT NO.: 1PAPER: Kronekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 71.0 GPMSYSTEM: WIDAL

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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL 2 Fuel Oil 1 Purple FLOW RATE 7 GPM
 DATE 7 July 1953 SYSTEM TDI
 FLIGHT # 1 AIRSPEED 7 KNOTS
 SAMPLE LINE A ALTITUDE 100 FEET
 TIME OF RELEASE 0413 Hours AIRCRAFT COURSE 270 Degrees
 DURATION ---

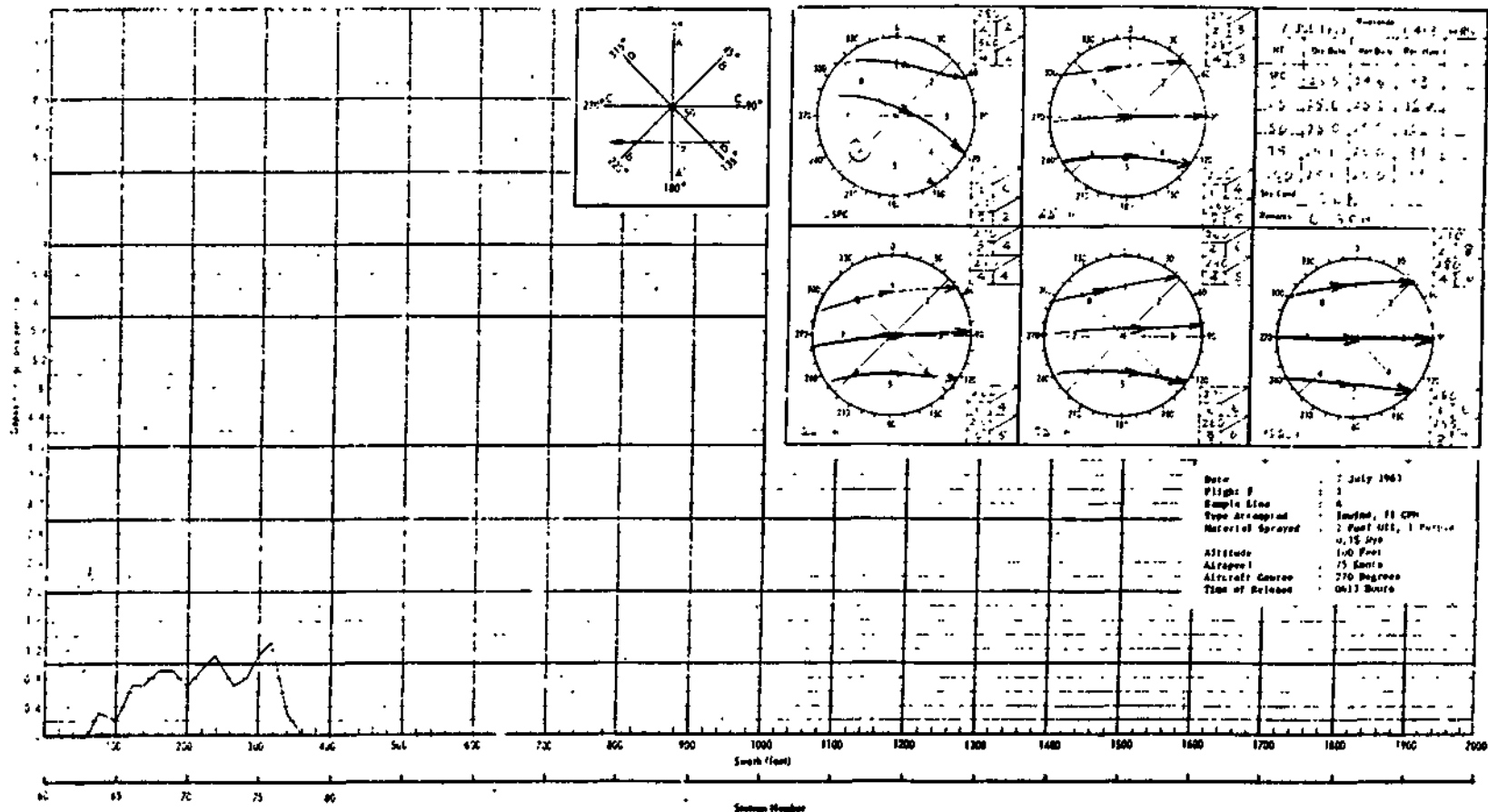
STATION C.P.A. STATION C.P.A. STATION C.P.A. STATION C.P.A.
 Stations 1 63 Blank

61 0.3
 62 0.2
 66 0.7
 67 0.7
 68 0.9
 69 0.9
 70 0.7
 71 0.9
 72 1.1
 73 0.7
 74 0.7
 75 1.1
 76 1.3
 77 0.3

Station 78 - 100 Blank

 % Recovery - 52.0

Total 10.6



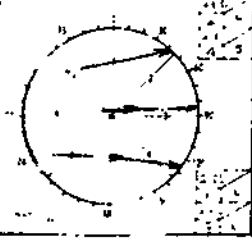
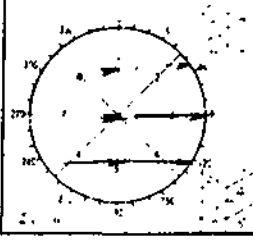
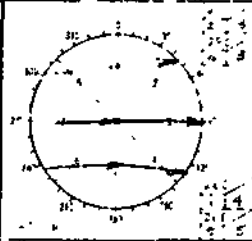
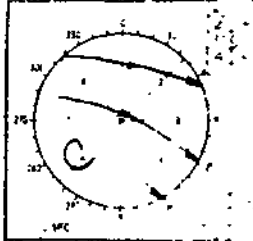
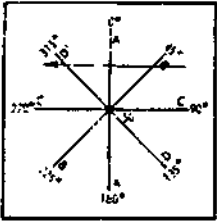
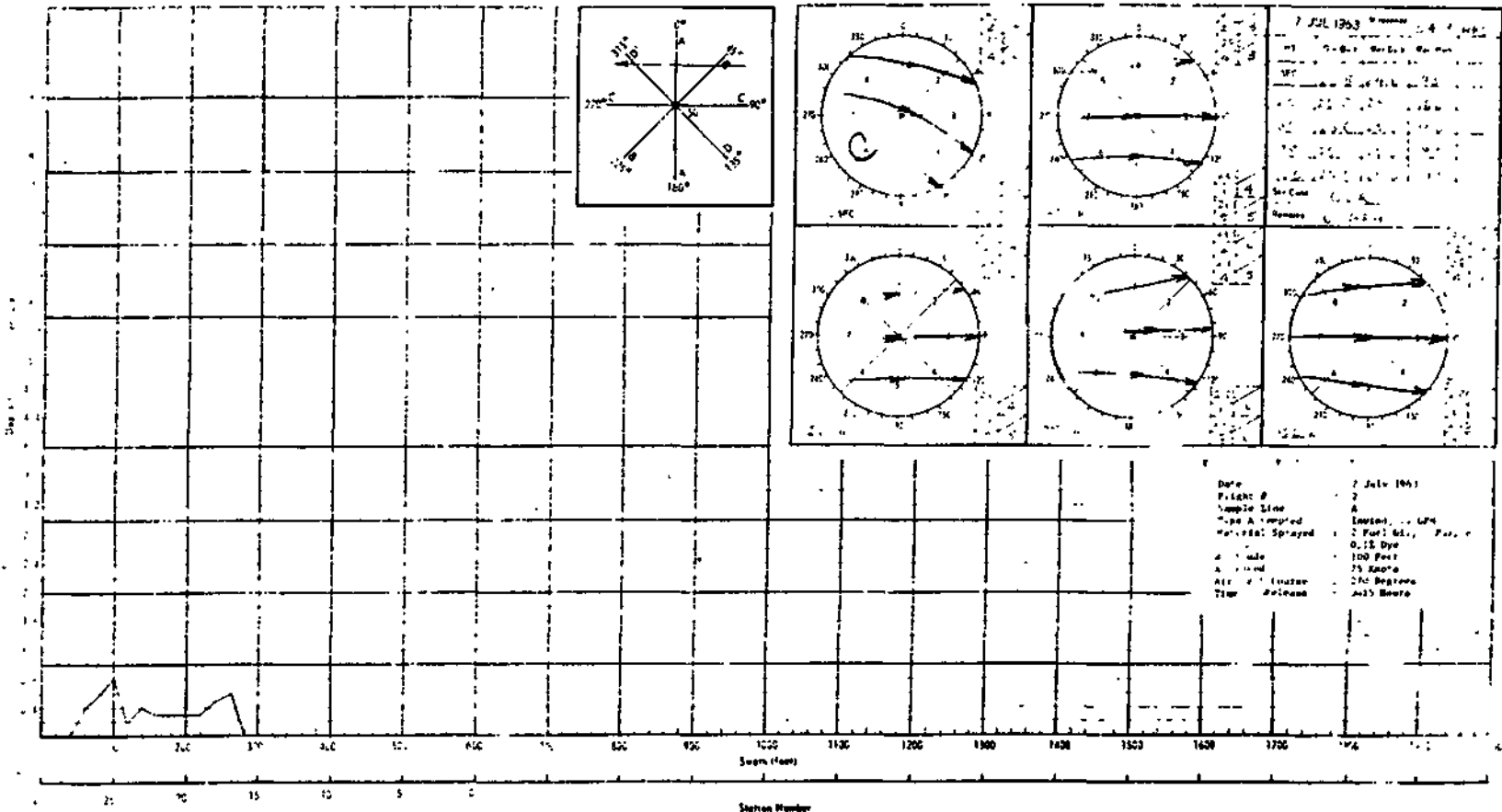
ANALYSIS

MATTER NO. 2 F. C. C. P. PID. DATE 11 1960
 DATE 11 1960 SYLAR PID
 FLIGHT # 7 ALTITUDE 100 F. T.
 SAMPLE LOG 8 AIRSPEED 11 K. M. H.
 TIME OF RELEASE 0-15 AIRCRAFT COURSE 270 Degrees
 DISPATCH 05

STATION 16 STATION 16 STATION 16 STATION 16
 STATION 16 STATION 16 STATION 16 STATION 16

17	0.4
18	0.1
19	0.1
20	0.1
21	0.2
22	0.1
23	0.1
24	0.1
25	0.1
26	0.1
27	0.1

Start s 28 100 c.k.k.



7 JUL 1963
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Date: 7 Jul 1963
 Flight #: 2
 Sample Line: A
 Line A Temp: Invert. ... GP4
 Material: Sprayed 2 Fuel Oil, ...
 Air: 100 Feet 0.18 Dye
 Air: 75 Feet 75 Smoke
 Air: 250 Feet 250 Beads
 Time: 2:15

Depth (feet)

Station Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 3PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 71.0 GPMSYSTEM: 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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

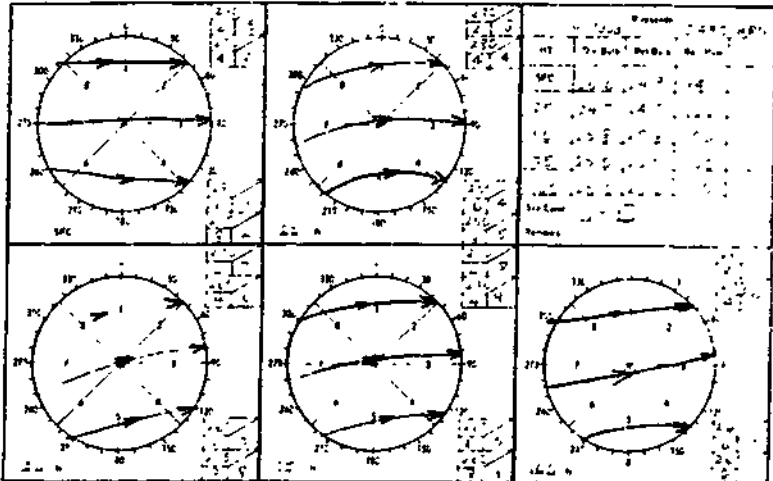
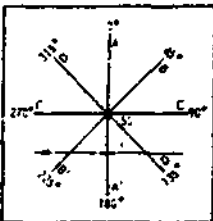
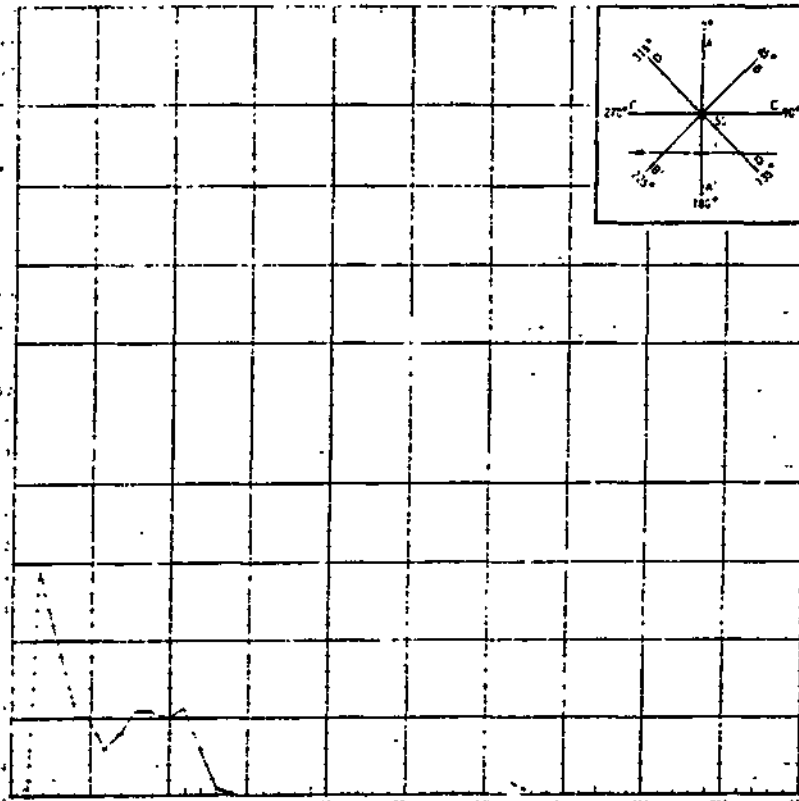
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 8 71 CFMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 3AIRSPEED: 55 KnotSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 0435 HoursAIRCRAFT COURSE: 270 DegreesDURATION 13.5 Sec.

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 : July 196
 Flight # : 1
 Sample Size : A
 Type Aligned : Inland, 71 LHM
 Material Sprayed : Fuel Oil, 1 Part
 Altitude : 75 Feet
 Airspeed : 55 Knots
 Aircraft Location : 270 Degrees
 Size of release : 6000 Square

80 75 72 65 60

Swath (feet)

Swath Number

MASS DEPOSIT

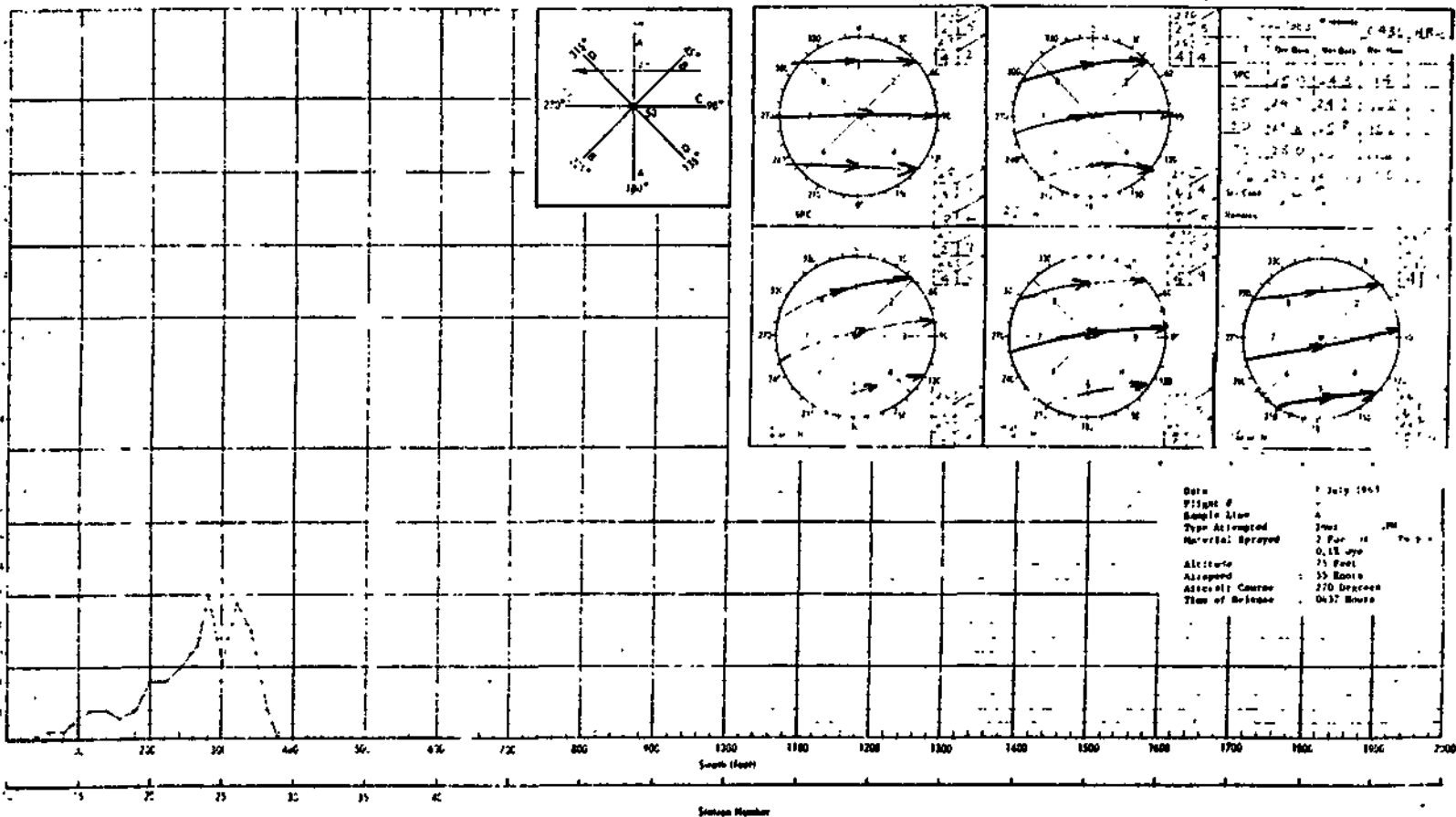
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 71 CM
 DATE: 7 July 1963 SYSTEM: HIDAL
 FLIGHT #: 4 AIRSPEED: 55 Knots
 SAMPLE LINE: A ALTITUDE: 75 Feet
 TIME OF RELEASE: 0437 Hours AIRCRAFT COURSE: 270 Degrees
 DURATION: 12.5 Sec.

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



MASS MEDIAN DIAMETER

DATE: 7 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 5PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 71.0 GPMSYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
27	2	4600			
22	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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 Purp^oFLOW RATE: 71 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT # 5AIRSPEED: 55 KnotsSAMPLE LINE: AALTITUDE: 50 FeetTIME OF RELEASE: 0456 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 13 Sec.

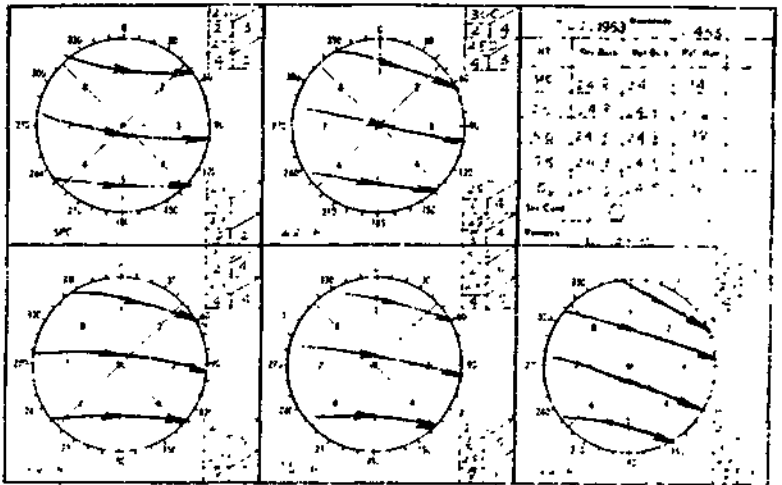
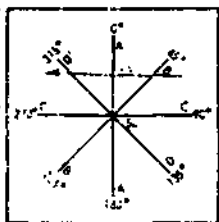
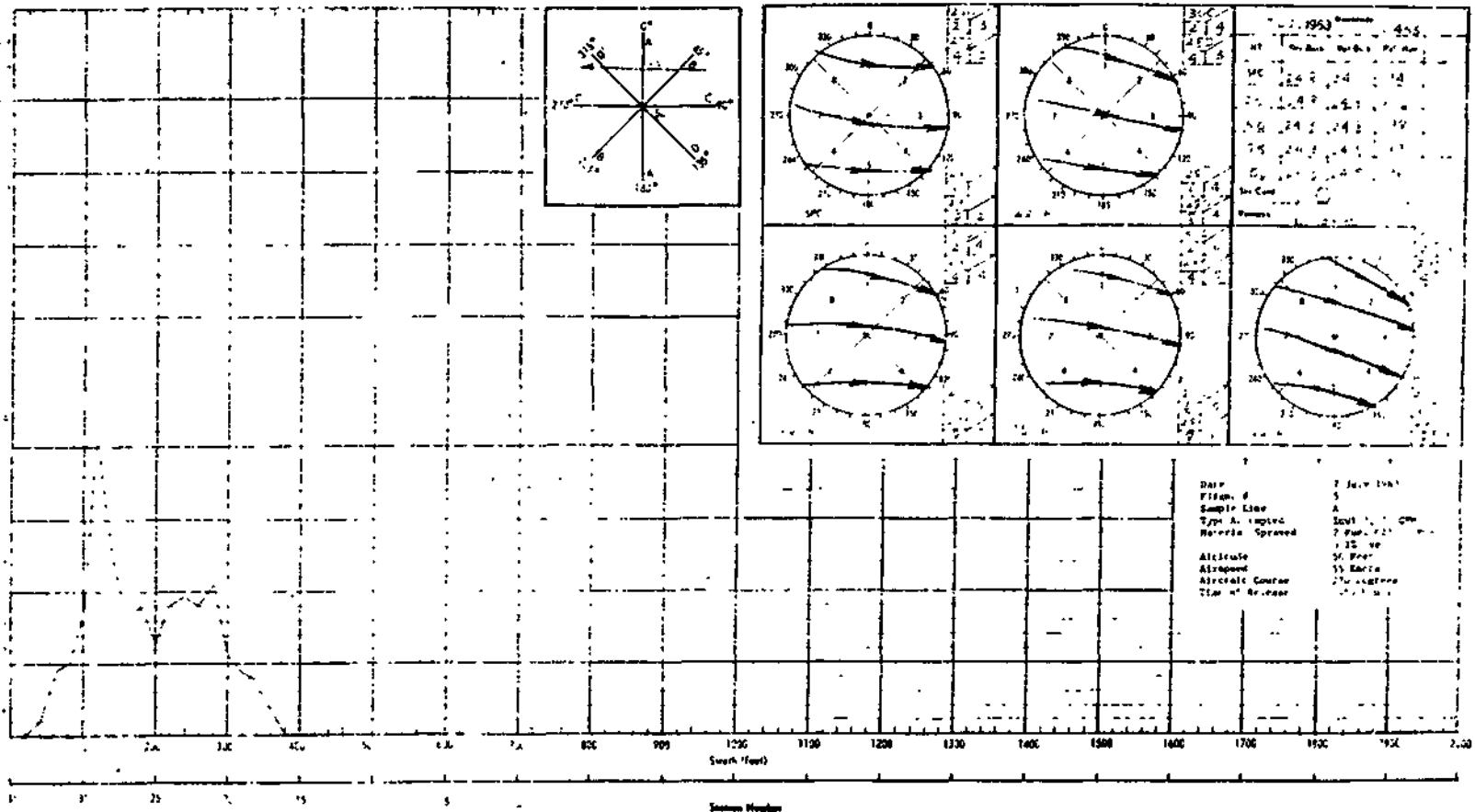
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 16 Blank							

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	1.7
32	0.9
33	0.2

Stations 34 - 100 Blank

7 Recovery - 93.6

Total 26.0



Date	7 Jan 1962
Film	5
Sample Line	A
Type A. Impact	2
Material Sprayed	2
Altitude	15 ft
Alignment	15
Aircraft Course	270
Time of Release	10:15

Swath (feet)

Station Number

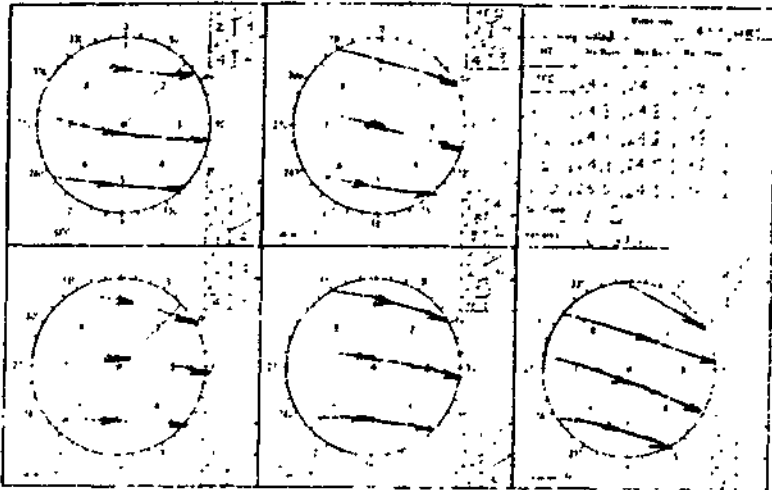
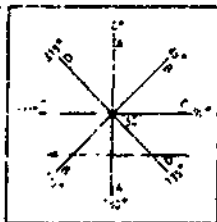
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 71 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 6AIRSPEED: 55 KnotsSAMPLE LINE: AALTITUDE: 50 FeetTIME OF RELEASE: 0457 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 10 Sec.

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



Date _____
 Flight _____
 Pilot's Name _____
 Aircraft _____
 Altitude _____
 Aircraft Course _____
 Time _____

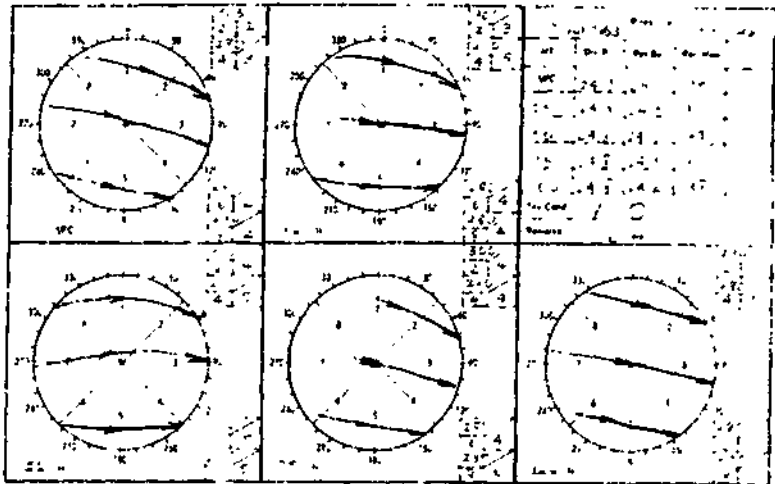
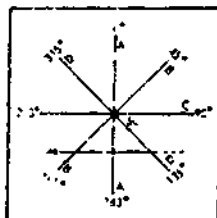
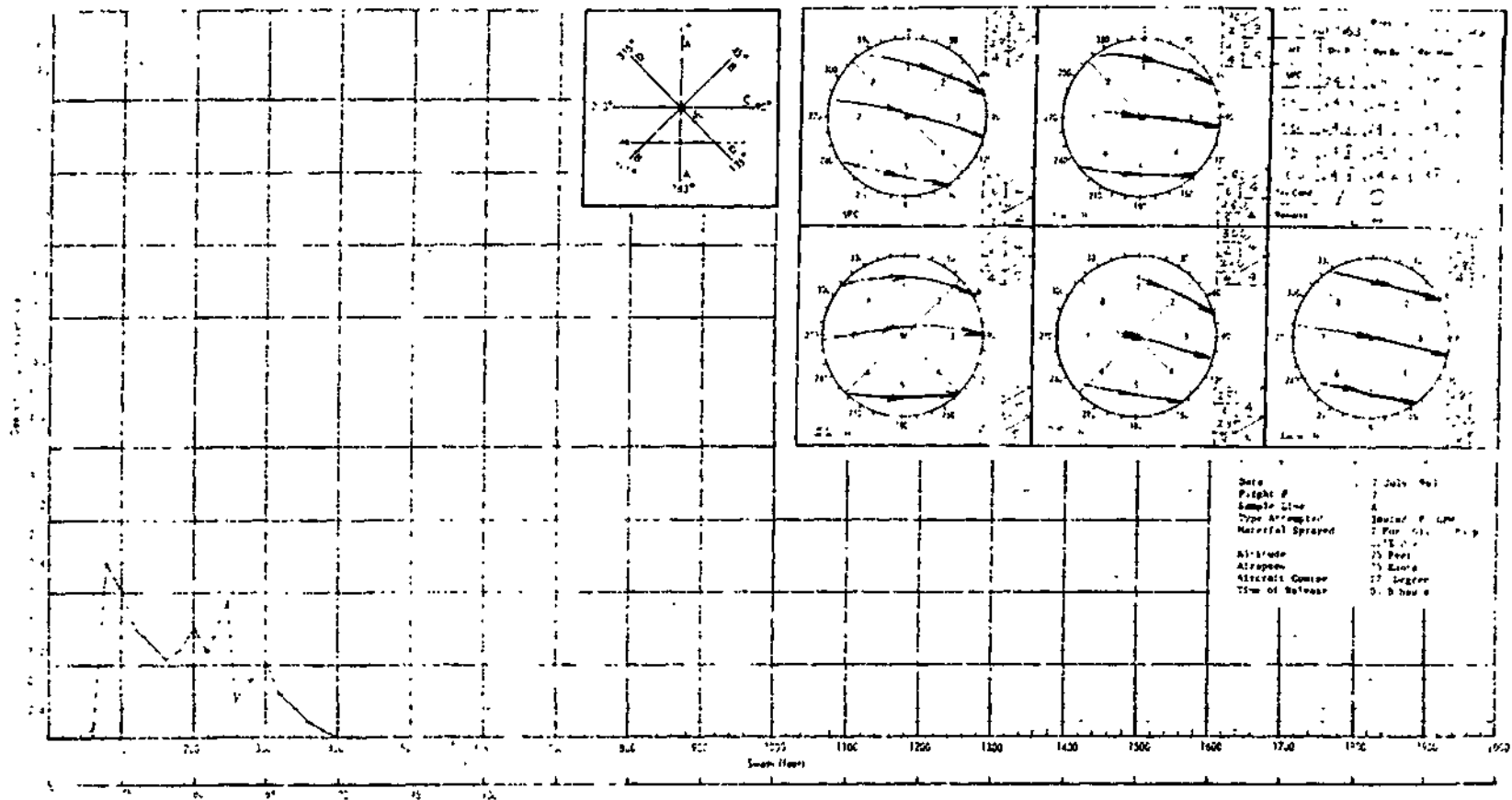
Scale 1:1000

Storage Number

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 7AIRSPEED: 75 KnotsSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 0518 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 13 Sec.

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



Date 7 July 60
 Flight # 7
 Sample Line 4
 Type Atomizer Insect P. LPH
 Material Sprayed 2 Per. 11. P. P.
 Altitude 25 Feet
 Airspeed 75 Knots
 Altitude Counter 27 Loggers
 Time of Release 0: 5 hour

Swath Hours 0 20 40 60 80 100 120 140 160 180 200

Swath Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 8PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80.0 GPMSYSTEM: 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			

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

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

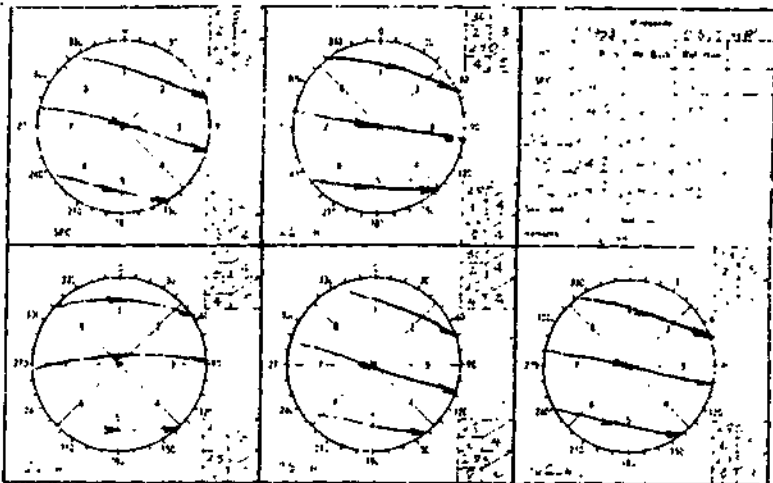
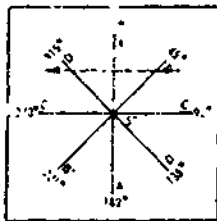
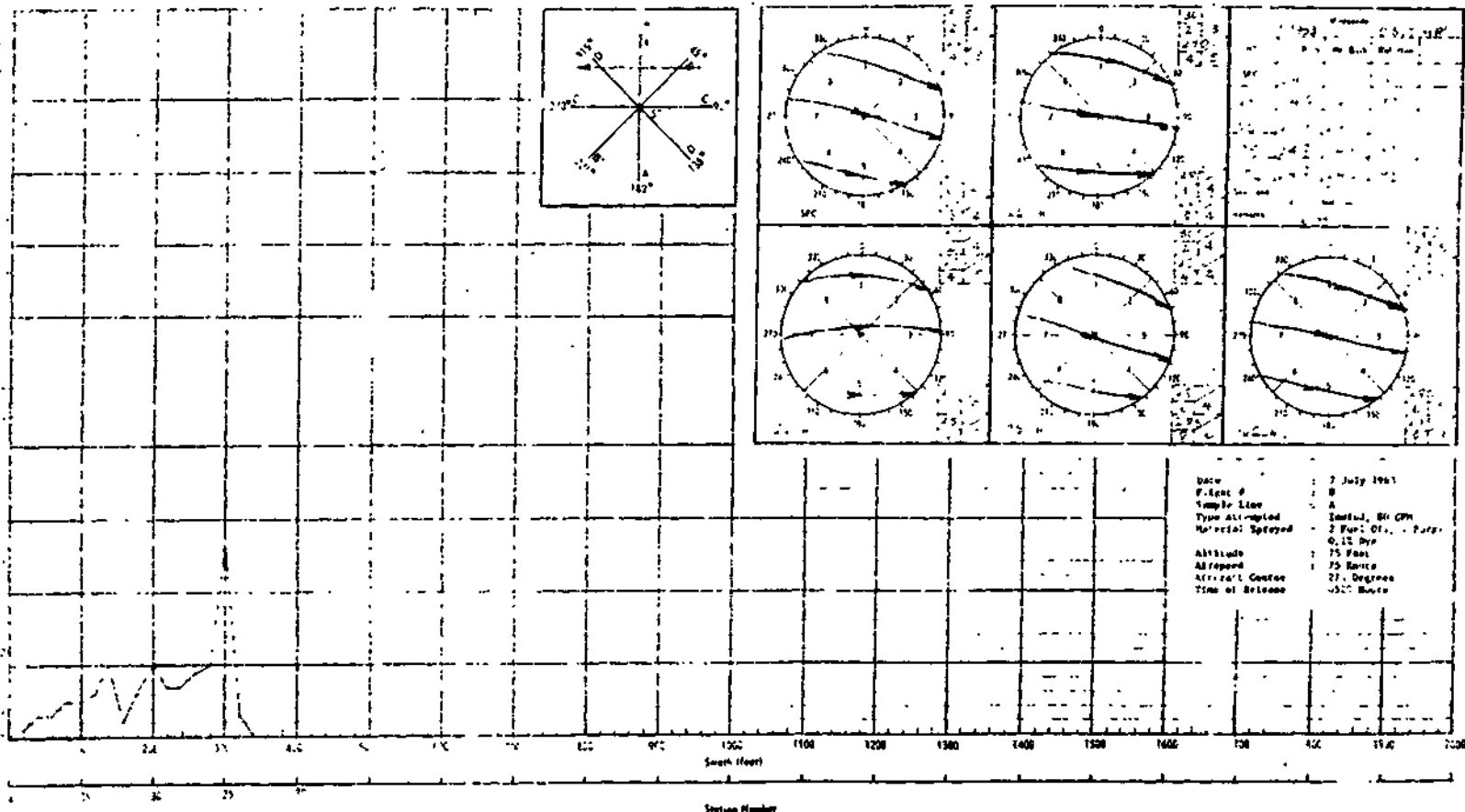
$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 GPM
 DATE: 7 July 1963 SYSTEM: HIDAL
 FLIGHT #: 8 AIRSPEED: 75 Knots
 SAMPLE LINE: A ALTITUDE: 75 Feet
 TIME OF RELEASE: 0520 Hours AIRCRAFT COURSE: 270 Degrees
 DURATION: 9.5 Sec.

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 : 7 July 1961
 Flight # : 8
 Sample Line : A
 Type of Sample : Initial, 80 CM
 Material Spayed : 2 Feet of ...
 0.15 Mph
 Altitude : 75 Feet
 Airspeed : 75 Knots
 Aircraft Center : 27. Degree
 Time of Release : 10:00 Hours

Depth (feet)

Section 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 SYSTEM: HIDAL GPM

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			

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

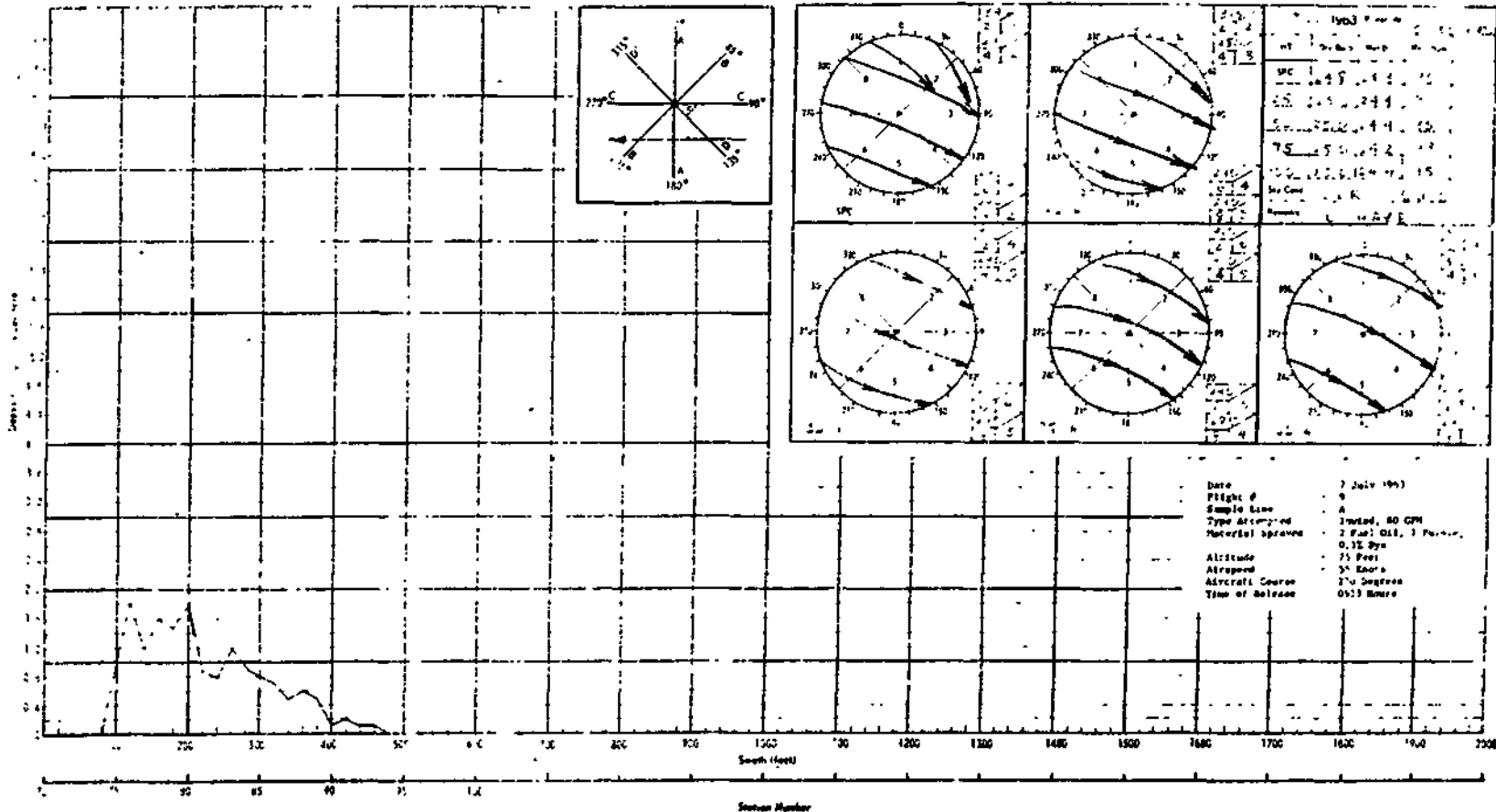
$$\text{Max. Sph. Dia.} = 67.72 + 0.14 \times (4100) = \frac{4100}{6.430} = 649.8 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 9AIRSPEED: 55 KnotsSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 0533 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 11 Sec.

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	0.2		
				92	0.1		
				93	0.1		
				94	0.1		
				95	0.1		
				96	0.1		
				Station 97 - 100	Blank		

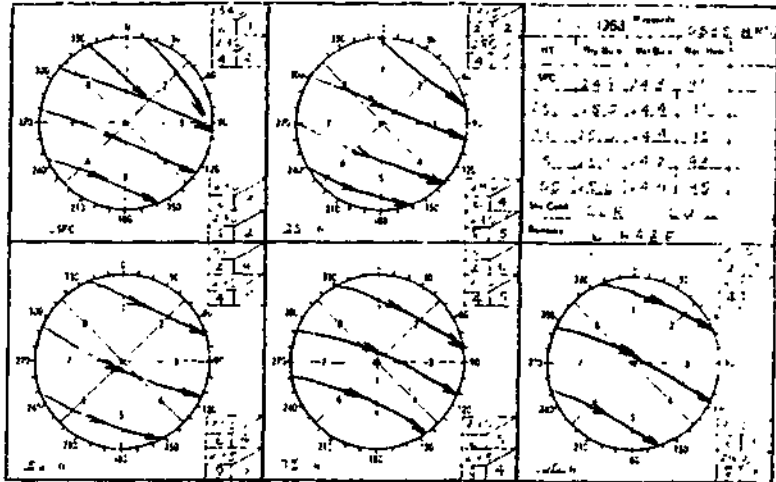
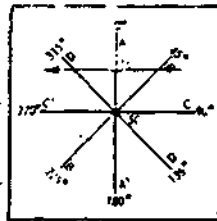
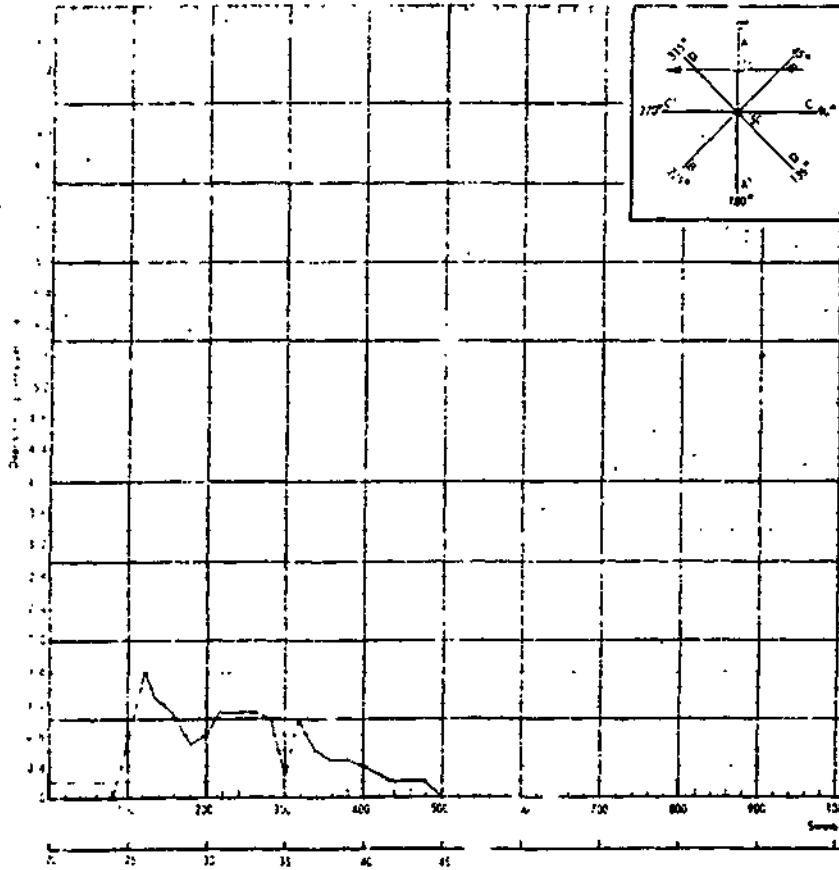
Total 16.3



MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 10AIRSPEED: 55 KnotsSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 0535 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 13 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23	Blank	24	0.9				
		25	0.7				
		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 # : 50
 Sample Size : A
 Type of Sample : Sorted, 30 GPM
 Material Sprayed : 2 Fuel Oil, 1 Paraffin,
 0.75 Dye
 Altitude : 25 Feet
 Airspeed : 55 Knots
 Aircraft Camera : 270 Degree
 Time of Release : 0535 Hours

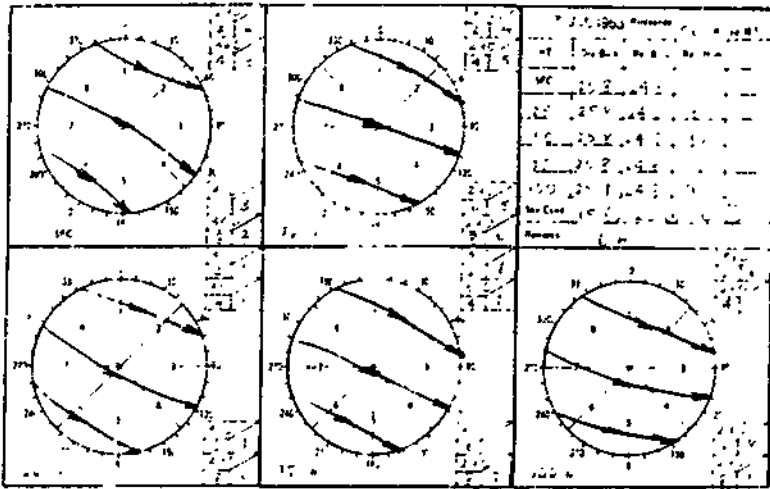
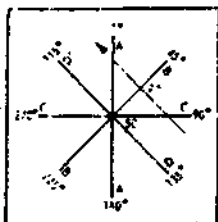
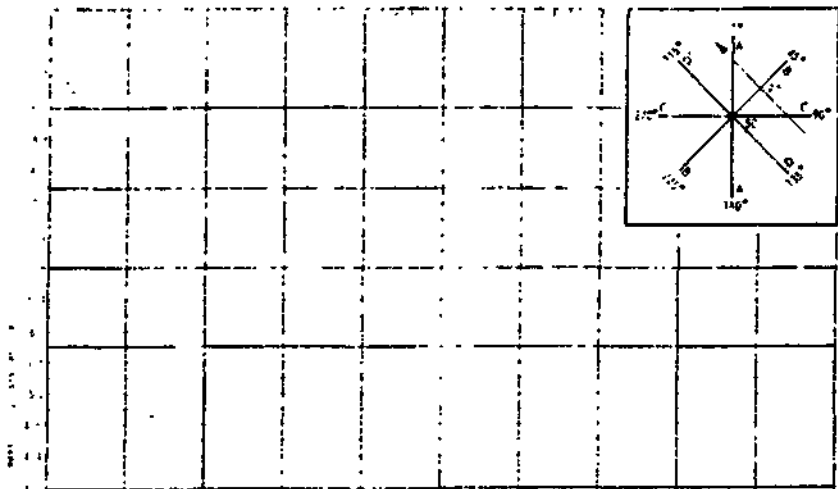
Sweep (feet)

Sweep Number

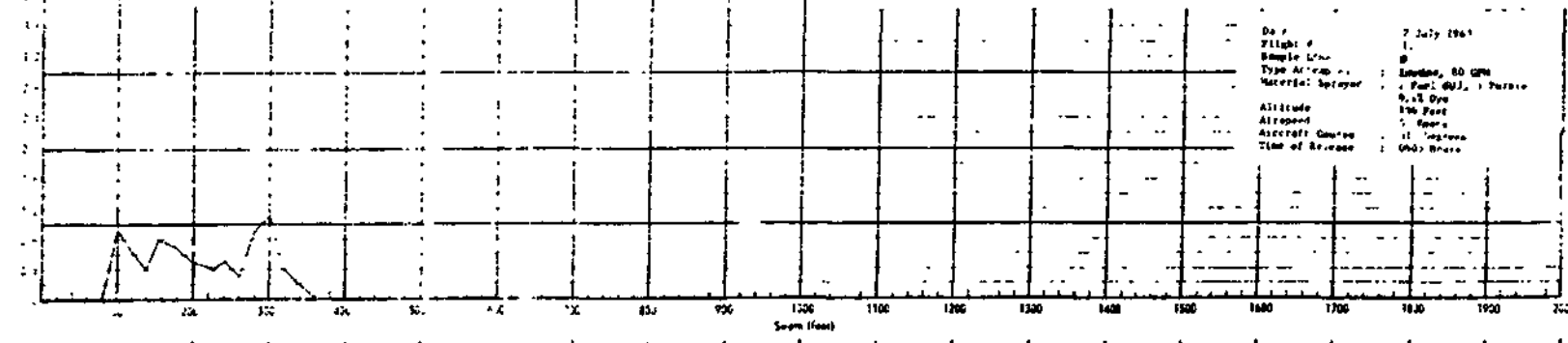
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 11AIRSPEED: 55 KnotsSAMPLE LINE: BALTITUDE: 100 FeetTIME OF RELEASE: 0605 HoursAIRCRAFT COURSE: 315 DegreesDURATION: 19 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23	Blank	24	0.0				
		25	0.9				
		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



Date: 7 July 1964
 Flight #:
 Sample Loc.:
 Type Aircraft:
 No. of Sprayer:
 Altitude:
 Aircraft Course:
 Time of Release:



Date: 7 July 1964
 Flight #:
 Sample Loc.:
 Type Aircraft:
 No. of Sprayer:
 Altitude:
 Aircraft Course:
 Time of Release:

MASS MEDIAN DIAMETER

DATE: 7 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 12PAPER: Kromekote, whiteSAMPLE LINE: BMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

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

$$\text{Min. Sph. Dia.} = 48 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 12AIRSPEED: 55 KnotsSAMPLE LINE: BALTITUDE: 100 FeetTIME OF RELEASE: 0607 HoursAIRCRAFT COURSE: 315 DegreesDURATION: 14 Sec.

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

MASS DEPOSIT

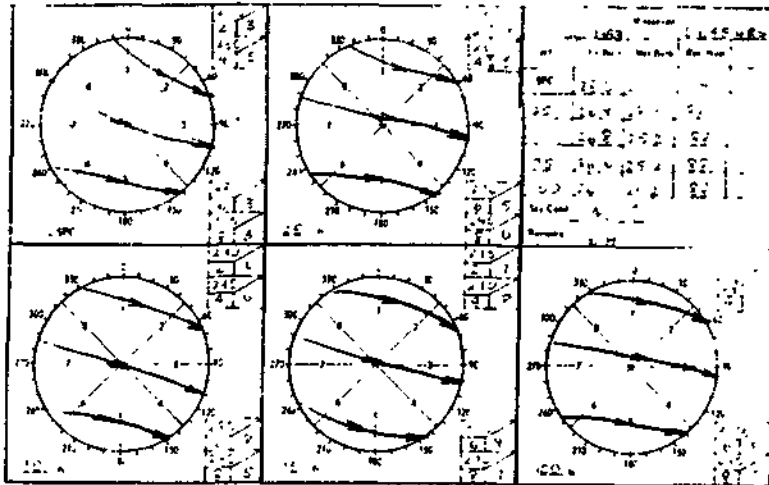
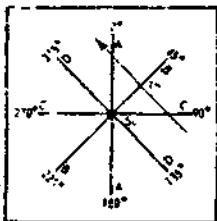
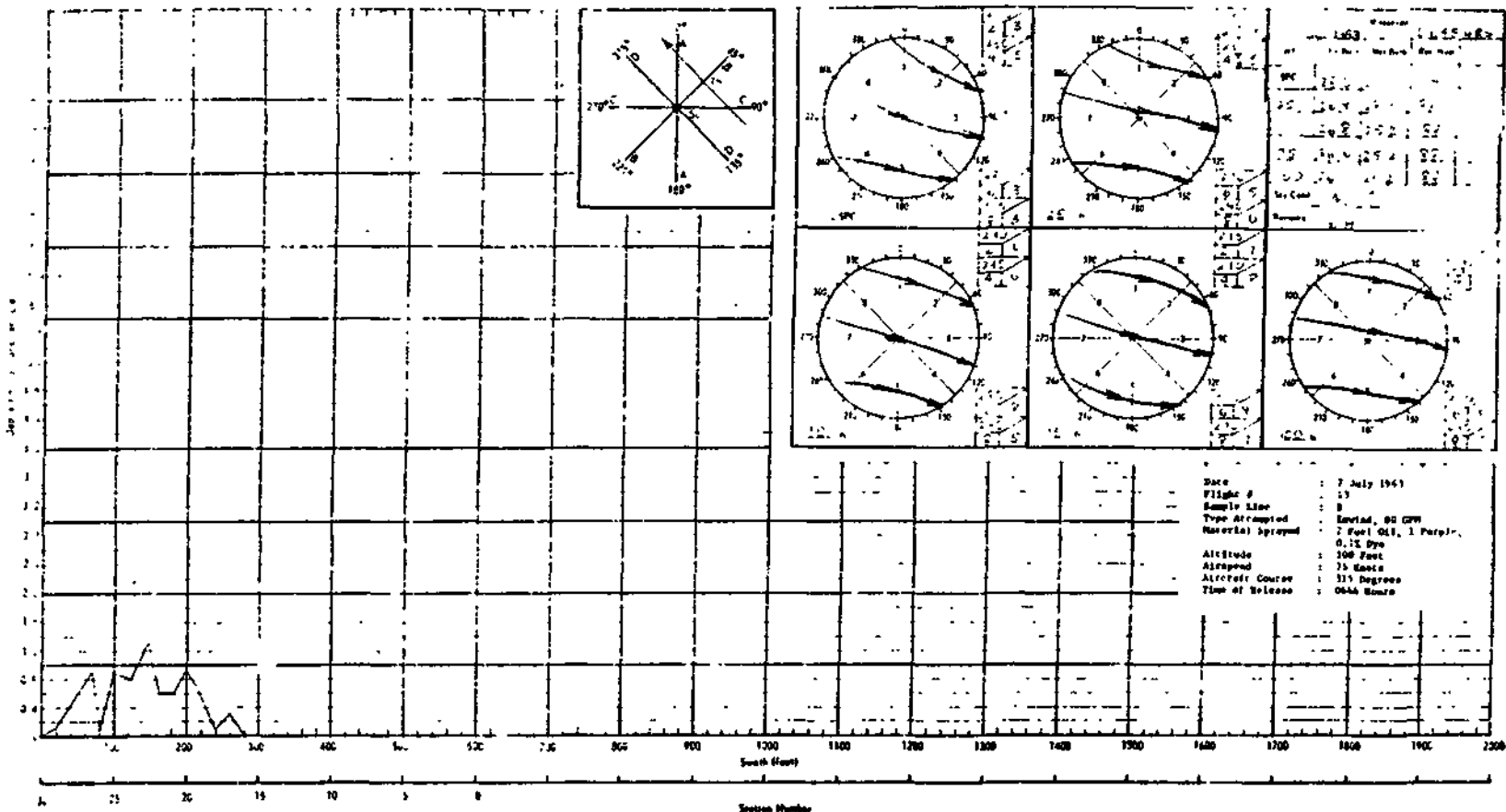
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 GPM
 DATE: 7 July 1963 SYSTEM: HIDAL
 FLIGHT #: 13 AIRSPEED: 75 Knots
 SAMPLE LINE: B ALTITUDE: 100 Feet
 TIME OF RELEASE: 0644 Hours AIRCRAFT COURSE: 315 Degrees
 DURATION: 11.5 Sec.

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 1961
 Flight # : 15
 Sample Line : B
 Type Aircraft : Convair, 440 GPW
 Material sprayed : 2 Fuel Oil, 1 Parsol
 Altitude : 100 Feet
 Airspeed : 75 Knts
 Aircraft Course : 315 Degree
 Time of Release : 0644 Hours

Section Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 14PAPER: Kromekote, whiteSAMPLE LINE: BMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 Gm
 DATE: 7 July 1963 SYSTEM: HIDAL
 FLIGHT #: 14 AIRSPEED: 75 Knots
 SAMPLE LINE: B ALTITUDE: 100 Feet
 TIME OF RELEASE: 0646 hours AIRCRAFT COURSE: 315 Degrees
 DURATION: 09 Sec.

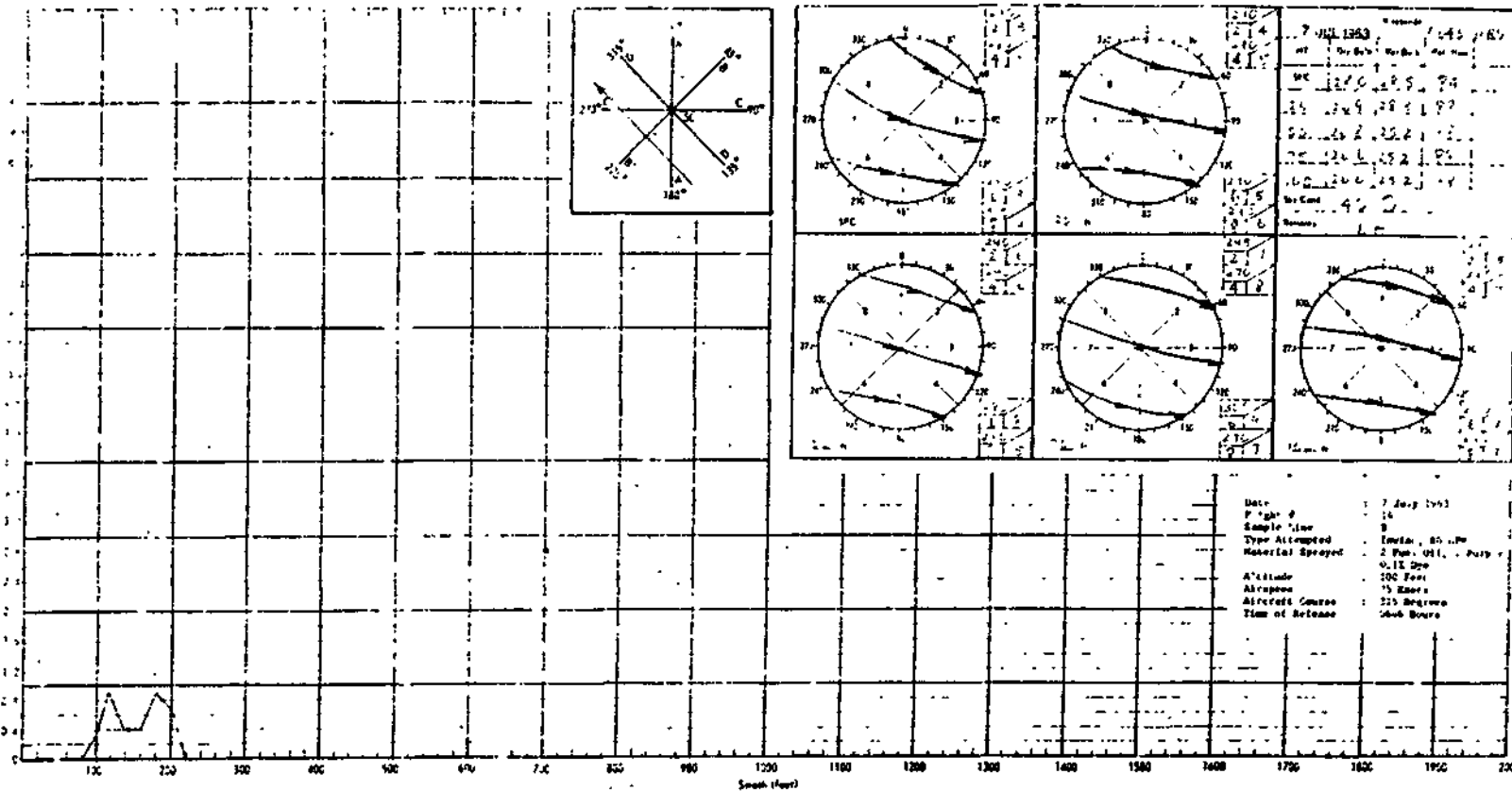
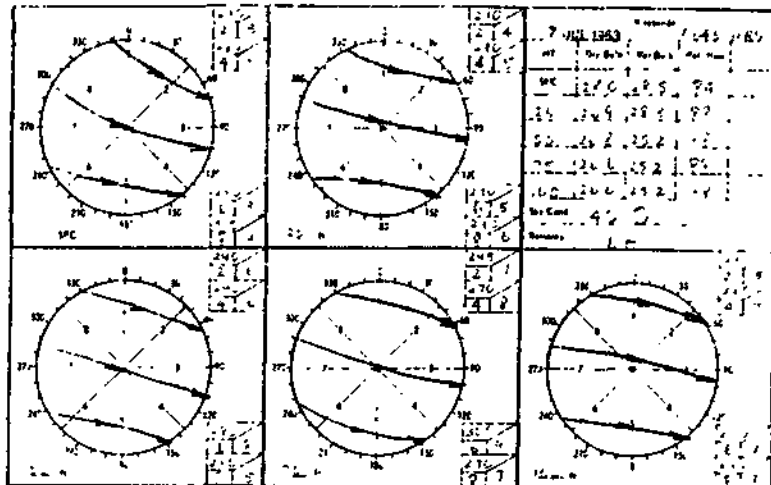
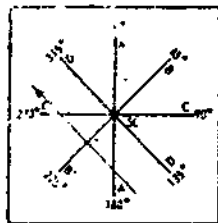
STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A.
 Stations 1 - 69 Blank

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



Stations Number

Stations Number

MASS DEPOSIT

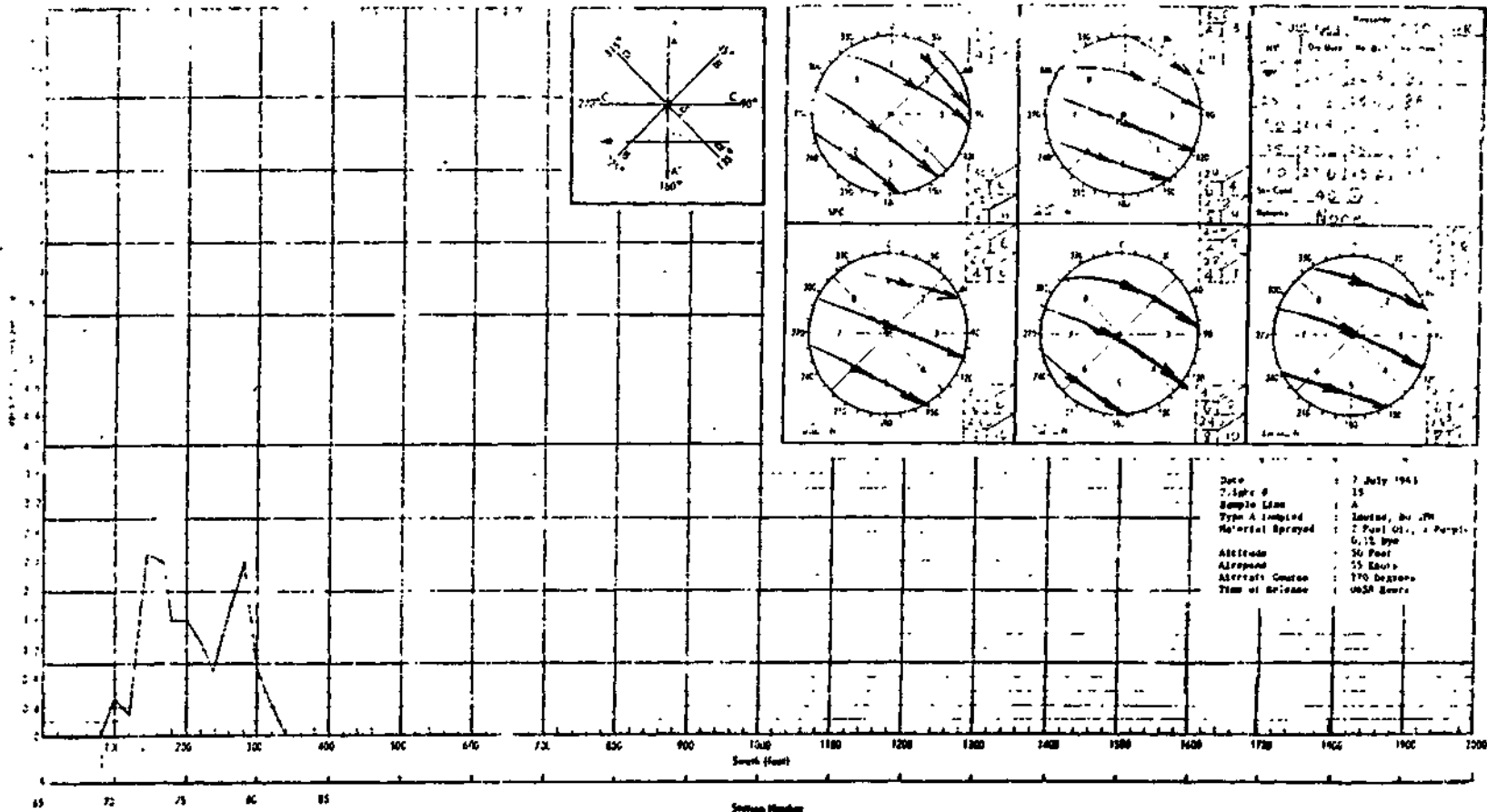
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 GPM
 DATE: 7 July 1963 SYSTEM HIDAL
 FLIGHT #: 15 AIRSPEED: 55 Knots
 SAMPLE LINE: A ALTITUDE: 50 Feet
 TIME OF RELEASE: 0658 Hours AIRCRAFT COURSE 270 Degrees
 DURATION: 14 Sec.

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



MASS MEDIAN DIAMETER

DATE: 7 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 16PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

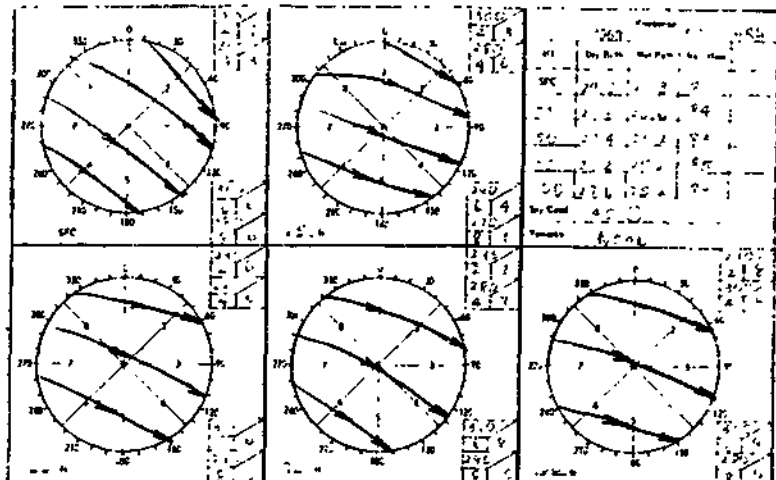
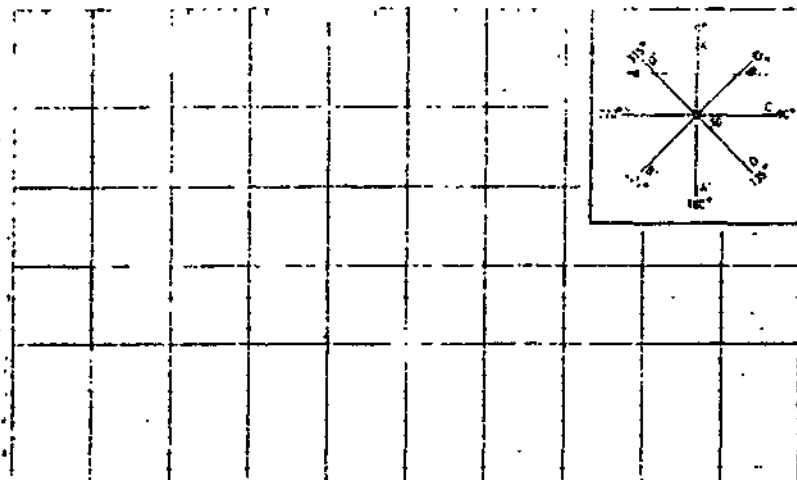
$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420(4000)}{6.430} = \frac{4000}{6.430} = 635.6 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

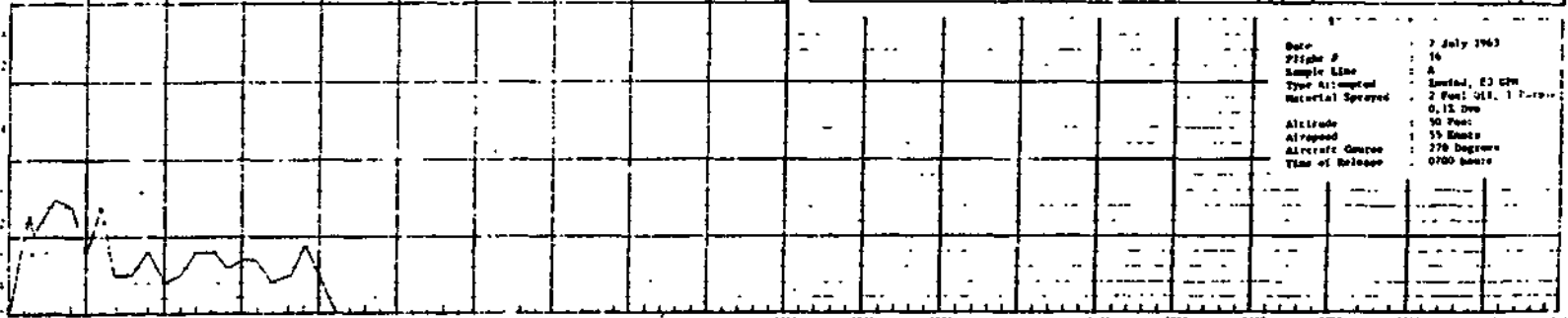
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 7 July 1963SYSTEM: HIDALFLIGHT #: 16AIRSPEED: 55 KnotsSAMPLE LINE: AALTITUDE: 50 FeetTIME OF RELEASE: 0700 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 16 Sec.

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: 7 July 1963
 Flight #: 16
 Sample Line: A
 Type Aircraft: Spadix, E3 CW
 Material Sprayed: 2 Fuel Oil, 1 Turb
 Altitude: 50 Feet
 Airspeed: 155 Knots
 Aircraft Course: 270 Degrees
 Time of Release: 0700 hours



Swath Feet: 0, 250, 500, 750, 1000, 1250, 1500, 1750, 2000, 2250, 2500
 Sample Number: 1, 2, 3, 4, 5

H-34/HIDAL GROUND FLOW & FLIGHT DATADATE CALIBRATED: 6 July 1963DATE TEST FLOWN: 8 July 1963LIQUID SPRAYED: 2 Fuel Oil, 1 PurpleTOTAL NOZZLES OPEN: 60NOZZLE TYPE: 8015LIQUID TEMP: 33.5° CDURATION OF SPRAY: 30 Sec.PUMP PRESSURE: 38-28 PSITOTAL AMOUNT SPRAYED 39.5 Gal.FLOW RATE CALIBRATED: 80 GPMOPERATIONAL DATA DURING FLIGHT

Above information is for Runs 1 - 10.

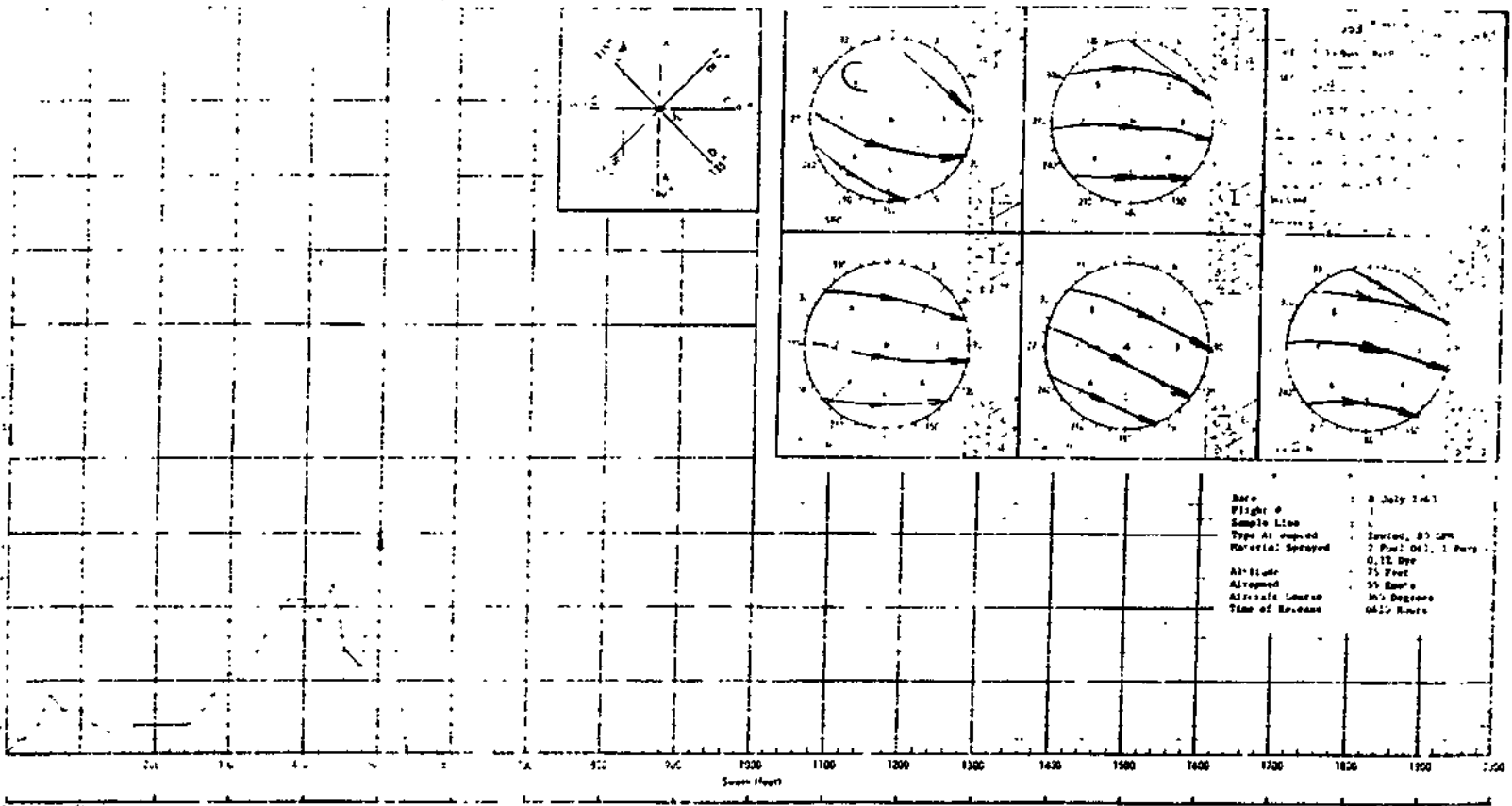
DATE CALIBRATED: 6 July 1963DATE TEST FLOWN: 8 July 1963LIQUID SPRAYED: 2 Fuel Oil, 1 PurpleTOTAL NOZZLES OPEN: 60NOZZLE TYPE: Check ValvesLIQUID TEMP: 36° CDURATION OF SPRAY: 20 Sec.PUMP PRESSURE: 20.5 PSITOTAL AMOUNT SPRAYED: 27.5 Gal.FLOW RATE CALIBRATED: 83 GPMOPERATIONAL DATA DURING FLIGHT

Above information is for Runs 11 - 14.

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 1AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0410 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 12 Sec.

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	Stations 77 - 100	Blank
		52	0.3				
		53	0.8				
		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 27.2



Date	8 July 1961
Flight #	1
Sample Line	6
Type of equipment	Inventor, 80 GPM
Material: Sprayed	7 Pwt: 0.01, 1 Pwt: 0.12 Dwt
Altitude	75 Feet
Altitude	55 Feet
Altitude	30 Degrees
Time of Exposure	0410 Hours

Station Number

MASS DEPOSIT

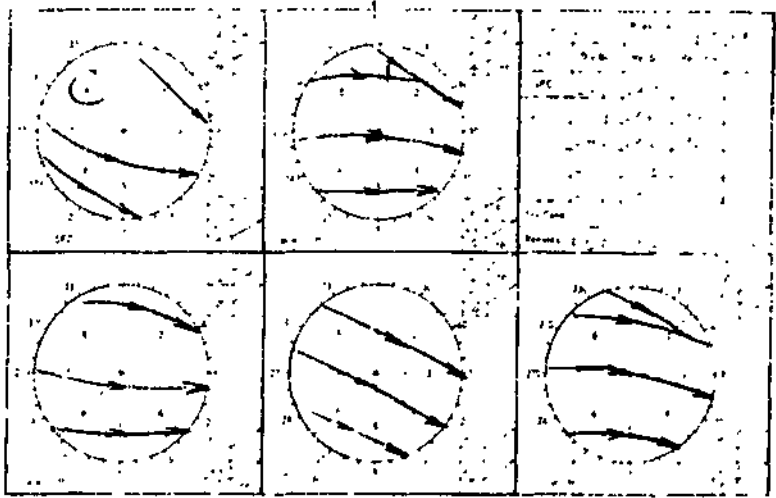
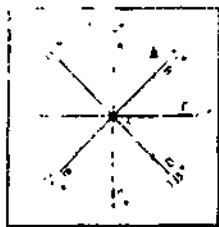
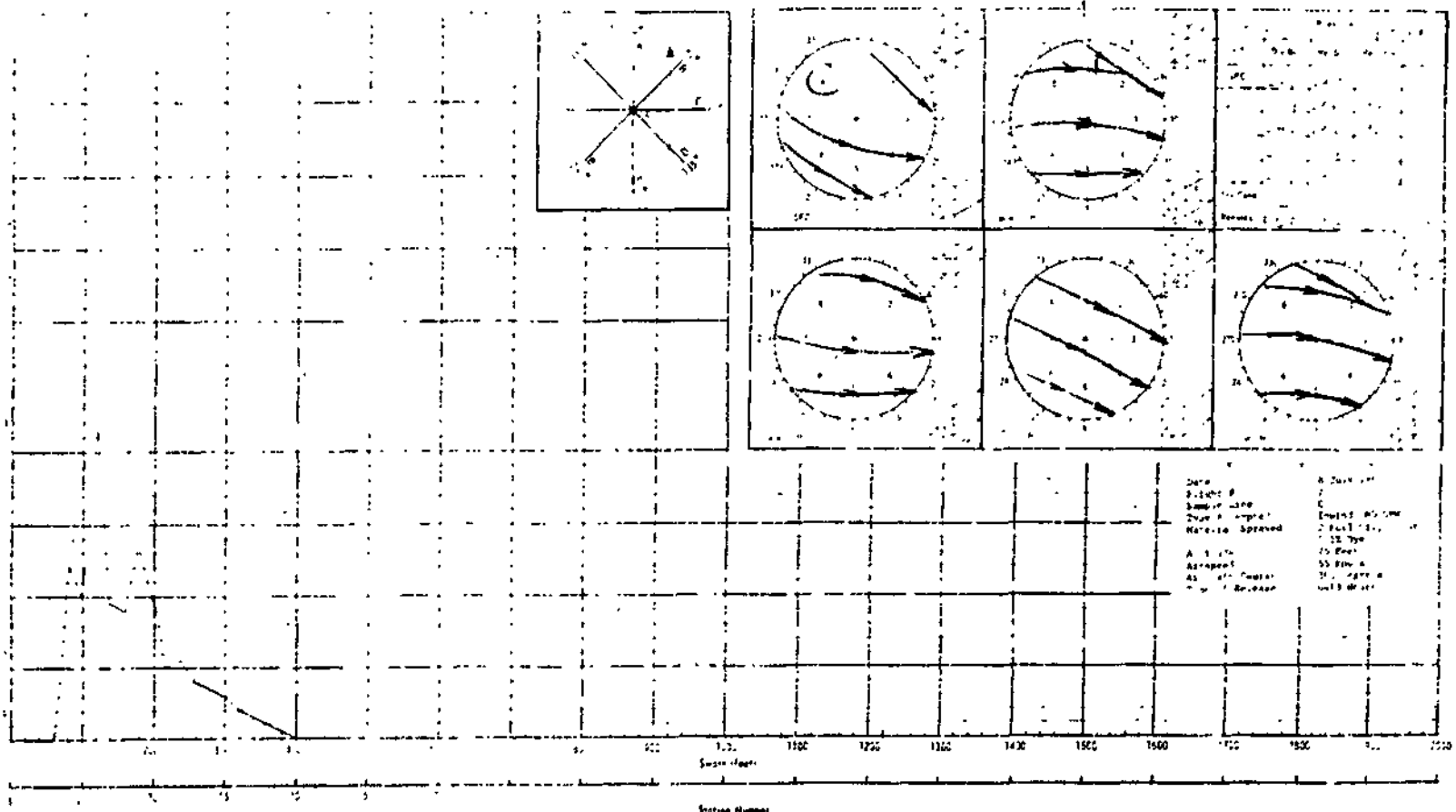
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 GPM
 DATE: 8 July 1963 SYSTEM: HIDAL
 FLIGHT #: 2 AIRSPEED: 55 Knots
 SAMPLE LINE: C ALTITUDE: 75 Feet
 TIME OF RELEASE: 0413 Hours AIRCRAFT COURSE: 360 Degrees
 DURATION: 13 Sec.

STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A.
 Stations 1 - 10 Blank

11 0.1
 12 0.2
 13 0.3
 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



Date	8 June 1957
Flight #	7
Sample used	Emuls. 40/100
Time of capture	2:00 PM
Location observed	SE Bay
A. S. No.	25 Emul.
As reported	55 Emul.
As analyzed	31 Emul.
Prepared by	W. B. Weaver

Surf Feet

Station Number

MASS MEDIAN DIAMETER

DATE: 8 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 3PAPER: Kromekote, whiteSAMPLE LINE: BMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

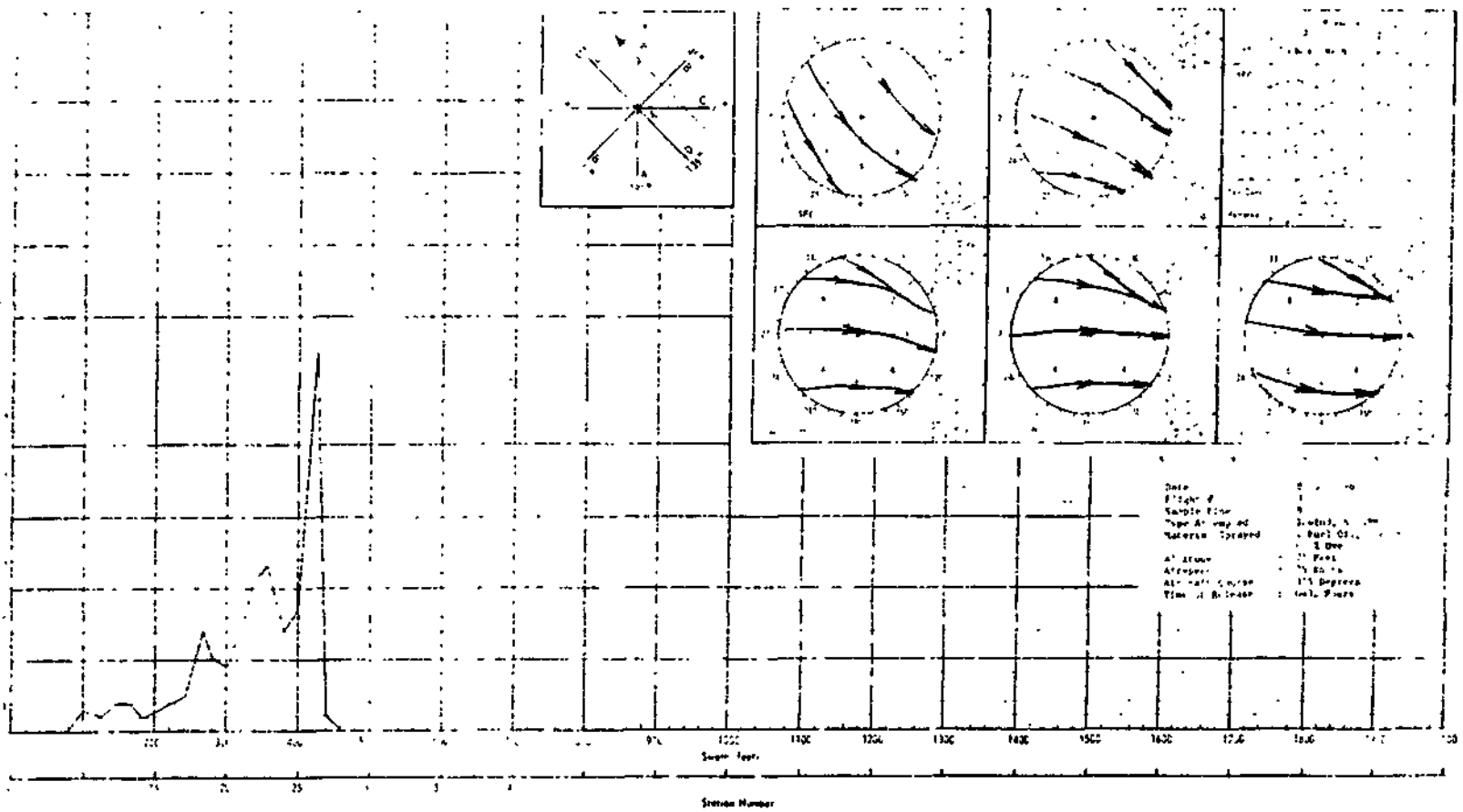
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 8 July 1963SYSTEM: FIDALFLIGHT #: 3AIRSPEED: 75 KnotsSAMPLE LINE: BALTITUDE: 75 FeetTIME OF RELEASE: 0432 HoursAIRCRAFT COURSE: 315 DegreesDURATION: 13 Sec.

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	5.5
27	0.2

Stations 28 - 100 Blank

Total 20.3



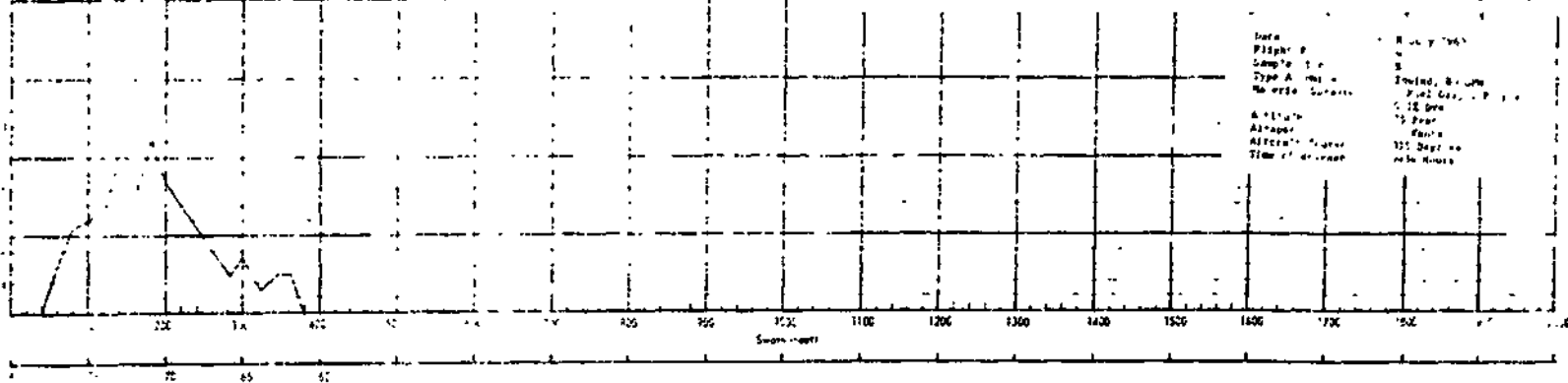
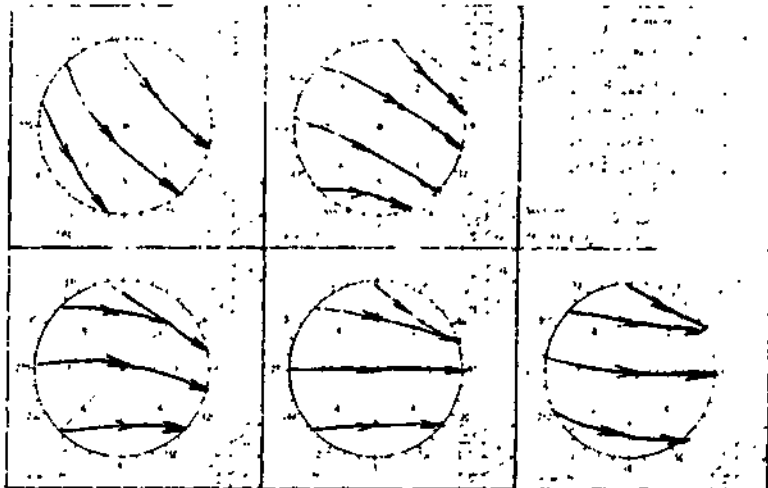
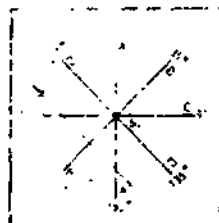
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 4AIRSPEED: 75 KnotSAMPLE LINE: BALTITUDE: 75 FeetTIME OF RELEASE: 0434 HoursAIRCRAFT COURSE: 315 DegreesDURATION: 11 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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



Date: 11 July 1965
 Flight: 1
 Sample: 1
 Type: A
 No. of Observations: 1
 Altitude: 10,000 ft
 Aircraft: F-105
 Time of day: 14:00
 Wind: 0-100
 Fuel: 100%
 Temp: 100
 Humidity: 100
 Visibility: 100
 Clouds: 100
 Remarks:

Station Number

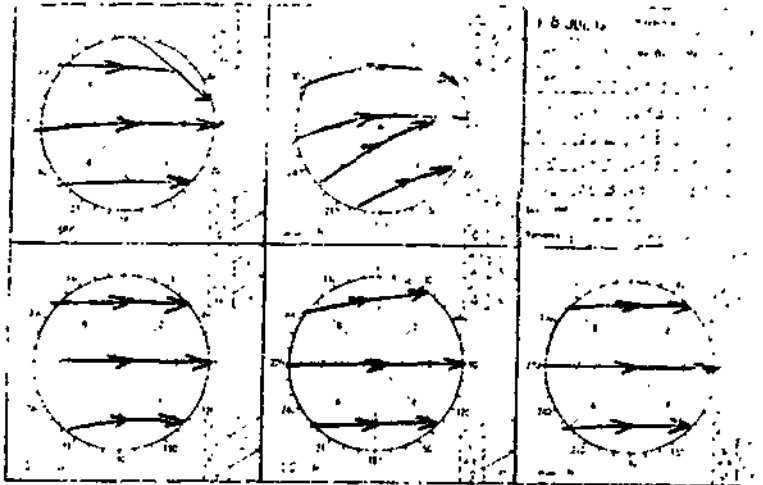
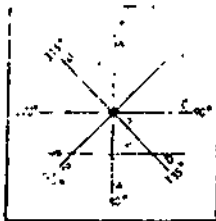
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 8 July 1963SYSTEM: NIDALFLIGHT #: 5AIRSPEED: 75 KnotsSAMPLE LINE: AALTITUDE: 50 FeetTIME OF RELEASE: 0455 HourAIRCRAFT COURSE: 270 DegreesDURATION: 12 Sec.

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

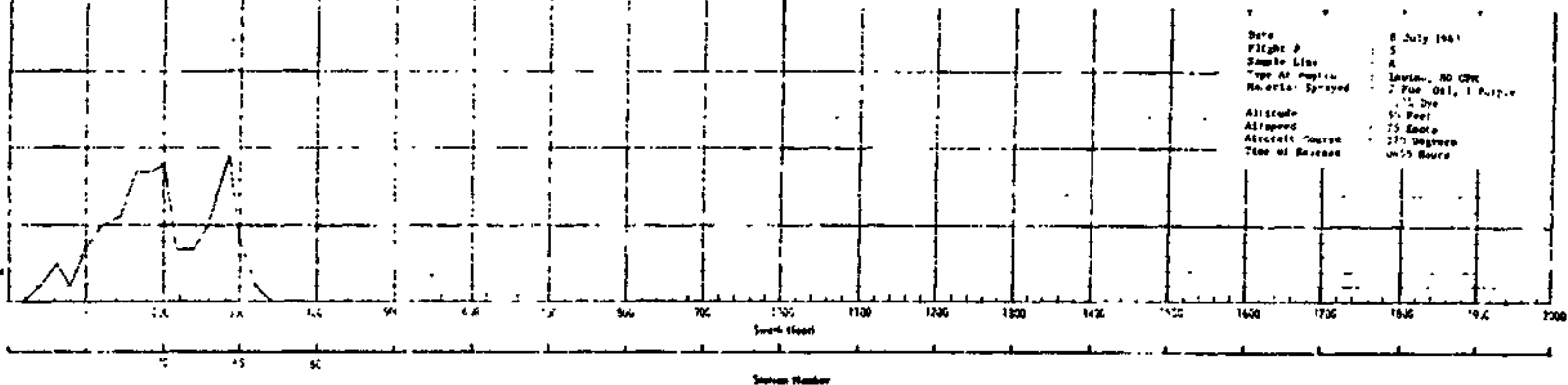
Stations 79 - 100 Blank

Total 14.2



18 JUL 1941

Date : 8 July 1941
 Flight # : 5
 Sample Line : A
 Type of Sample : Lawler, NO GPC
 Nozzle Sprayed : 2 Ppt. Gel, 1 Ppt. v
 : 10 Dye
 Altitude : 50 Feet
 Airspeed : 75 Knots
 Aircraft Course : 330 Degrees
 Time of Release : 11:55 Hours



MASS MEDIAN DIAMETER

DATE: 8 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 6PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: 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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

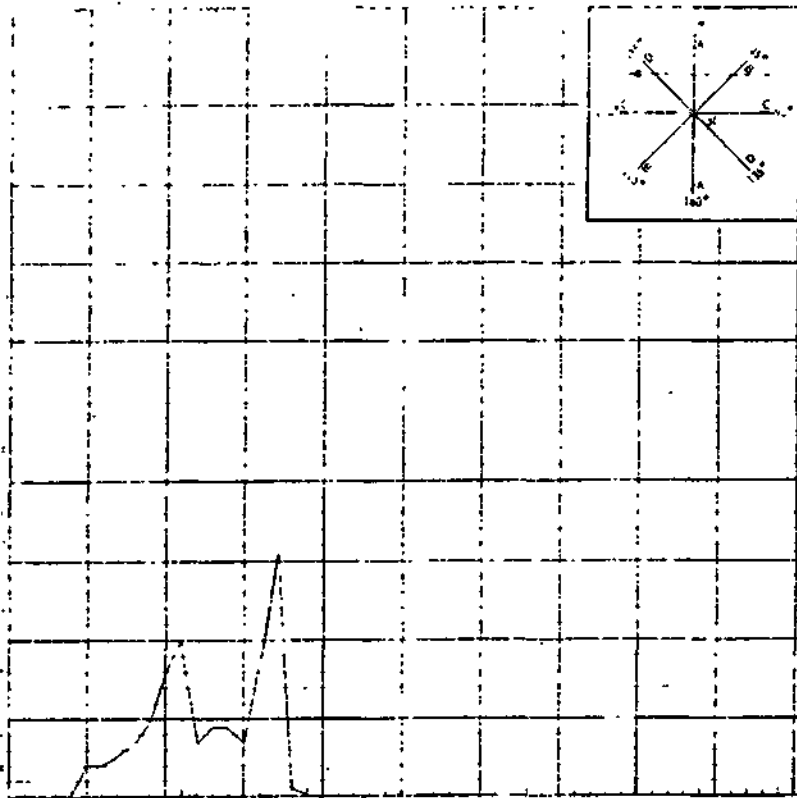
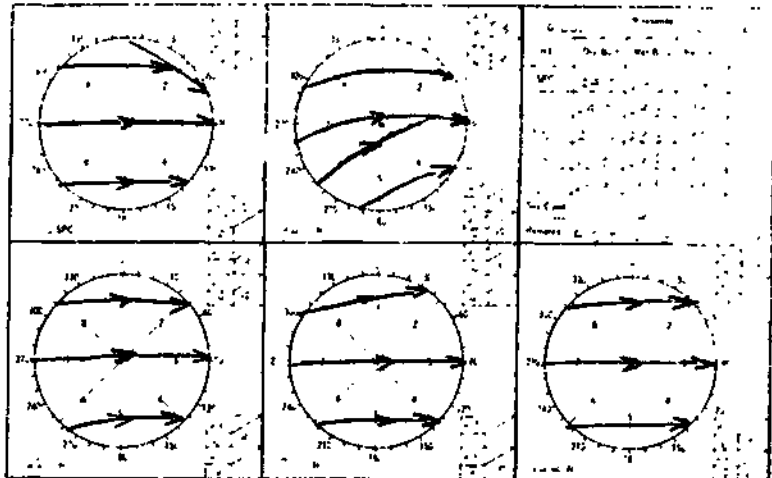
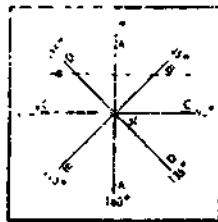
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 6AIRSPEED: 75 KnotsSAMPLE LINE: AALTITUDE: 50 FeetTIME OF RELEASE: 0457 HoursAIRCRAFT COURSE: 270 DegreesDURATION: '3 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 14	Blank						

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: 8 July 1963
 Flight: A
 Sun's Time: 17:00
 Type Aircraft: B-57C
 Piston Sprayed: Fuel Oil, 1 Part
 Altitude: 10,000 ft
 Altitude: 5000 ft
 Aircraft Course: 170 degrees
 Time of Release: 17:00

1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000
 South (Feet)
 10 20 30 40 50
 Sweep Number

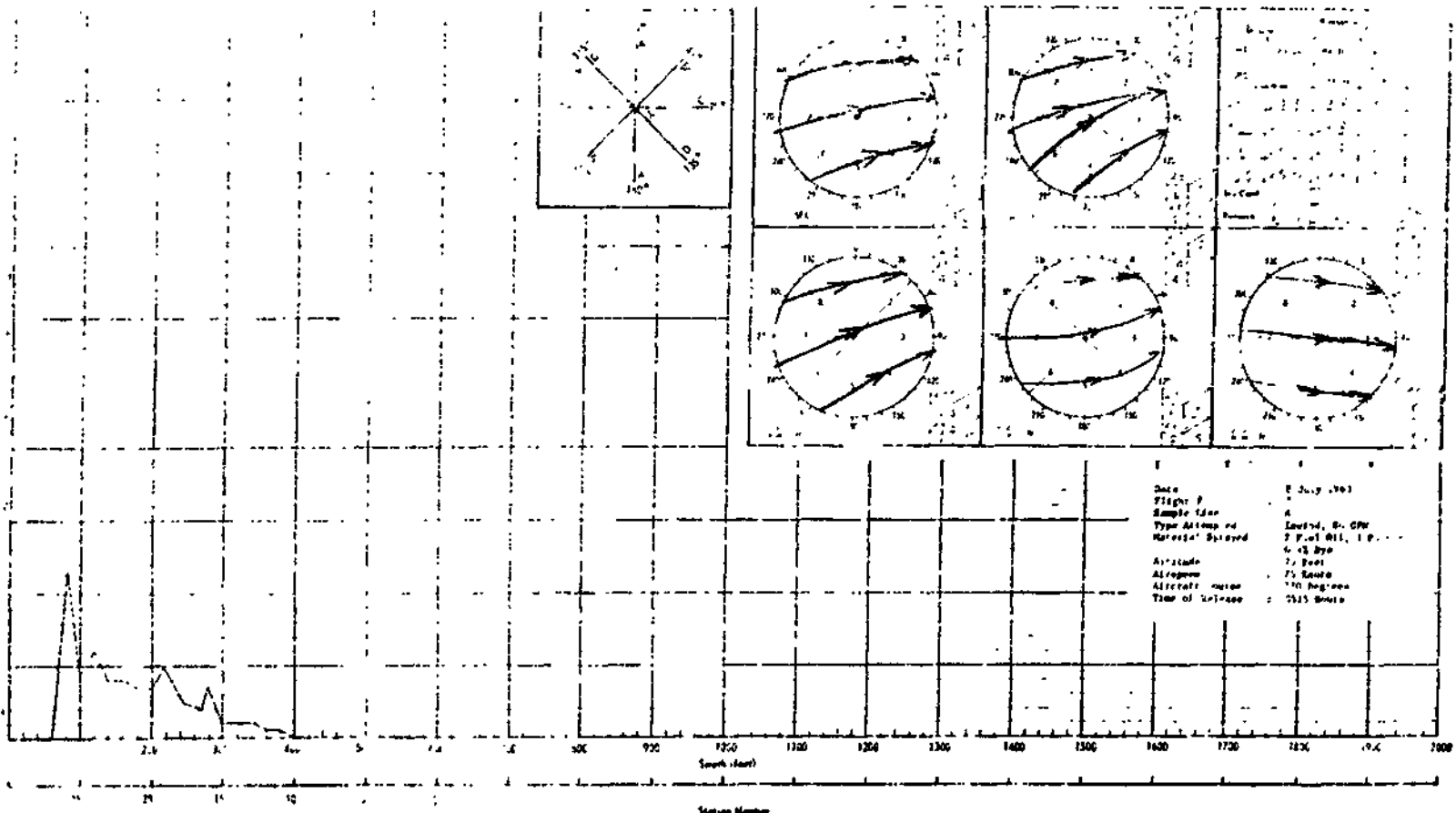
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 7AIRSPEED: 75 KnotsSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 0515 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 12 Sec.

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



Date	2 July 1961
Flight #	A
Sample Id#	4
Type Aircrew	Lownd, B. GW
Horizon' Stayed	2 P.M. 11. 1 P.
Airplane	4-45 Dye
Altitude	7,000
Airspeed	75 knots
Aircraft Inset	10 degrees
Time of Release	0515 hours

South (feet)

Stope Number

MASS DEPOSIT

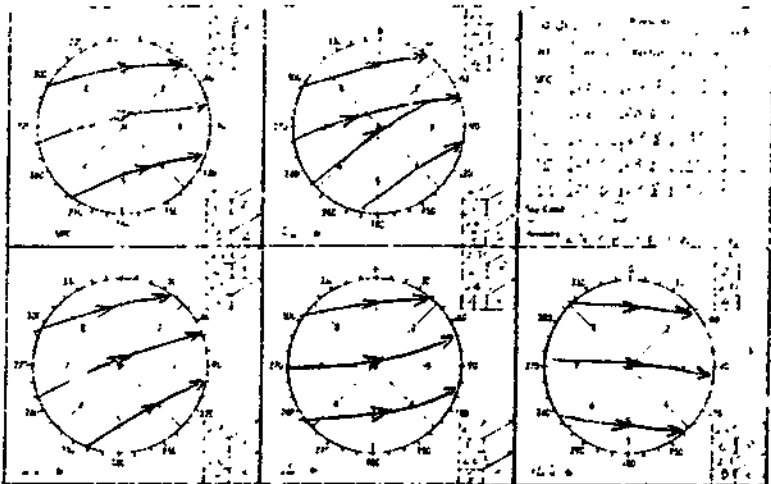
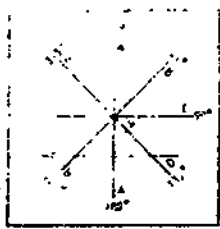
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 GPM
 DATE: 8 July 1963 SYSTEM: HIDAL
 FLIGHT #: 8 AIRSPEED: 75 Knots
 SAMPLE LINE: A ALTITUDE: 75 Feet
 TIME OF RELEASE: 0517 Hours AIRCRAFT COURSE: 270 Degrees
 DURATION: 15 Sec.

STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A.
 Stations 1 - 61 Blank

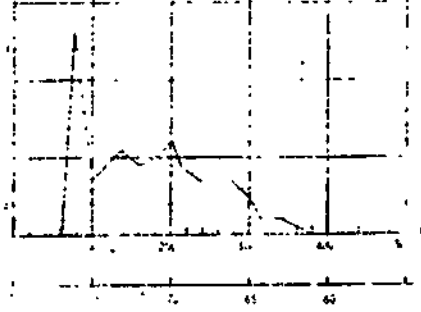
62 0.1
 63 0.2
 64 0.2
 65 0.5
 66 0.7
 67 Missing
 68 0.7
 69 0.9
 70 1.2
 71 1.0
 72 0.9
 73 1.1
 74 0.9
 75 0.7
 76 2.6
 77 0.0

Stations 78 - 100 Blank

Total 11.7



0 0
 11
 12
 13
 14
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 22
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 25
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 98
 99
 100



Date 8 July 196
 Flight 8
 Sample Size 8
 Type of Sample Iroted, 8 C/W
 Material System 7 Fuel Oil, 1 Persp
 Altitude 4.1 2. One
 Airspeed 75 Knot
 Altitude Gauge 75 Knot
 Time of Release 270 seconds
 112 Feet

1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000
 Surface Pressure
 Surface Temperature

MASS DEPOSIT

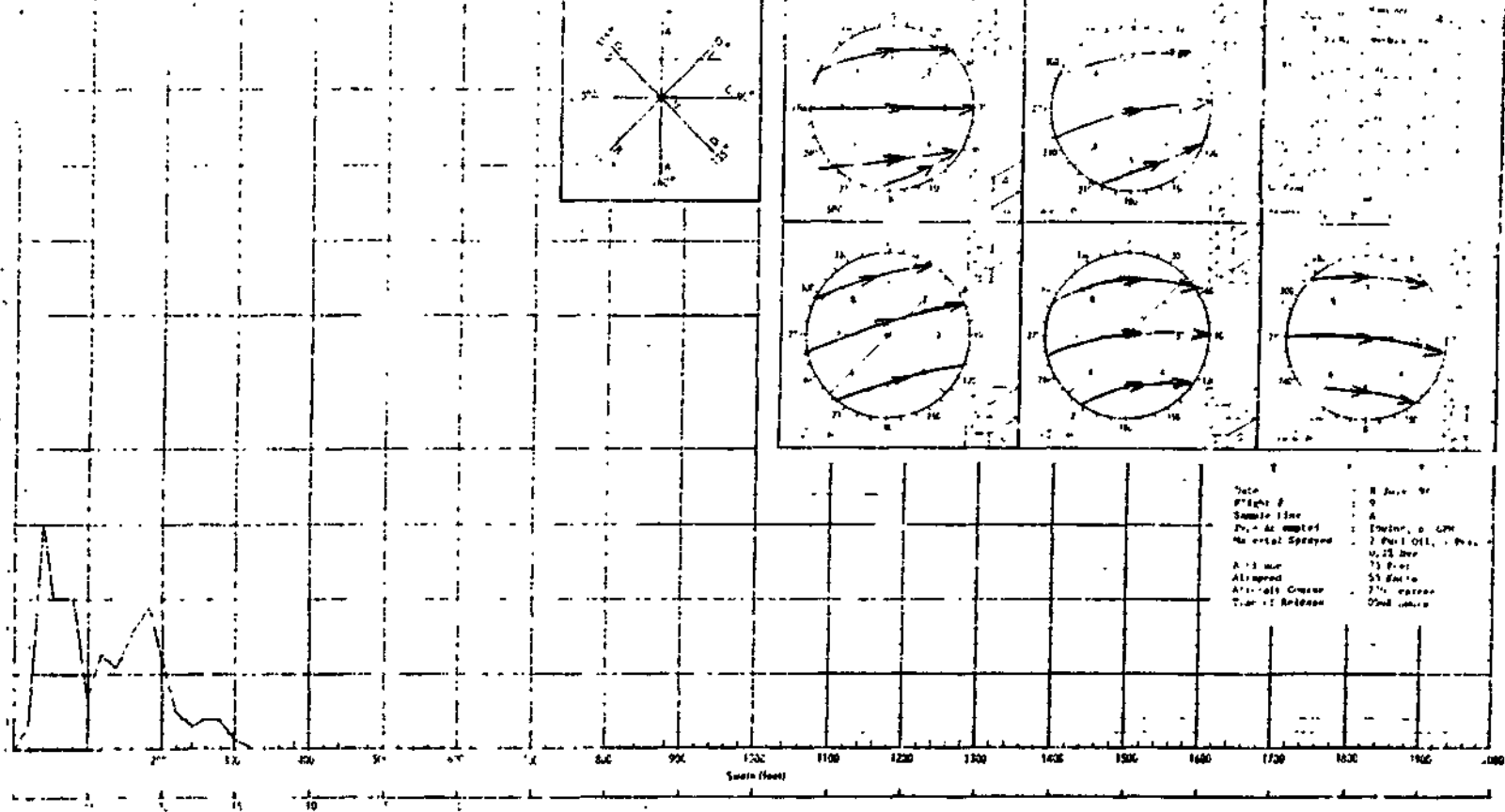
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 GPM
 DATE: 8 July 1963 SYSTEM: HIDAL
 FLIGHT #: 9 AIRSPEED: 55 Knts
 SAMPLE LINE: A ALTITUDE: 75 Feet
 TIME OF RELEASE: 0548 Hour AIRCRAFT COURSE: 270 Degrees
 DURATION: 16 Sec.

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



Date	8 Jun 54
Flight #	9
Sample line	4
Pre- & empty	Instr. & CPM
Aerial Spray	2 Gall Oil, 1 Gall 0.25 Dec
A 12 sec	75 Feet
Altitude	55 Feet
Aerial Camera	7 1/2 frames
Time of Release	0940 hours

Station Number

Station Number

MASS MEDIAN DIAMETER

DATE: 8 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 10PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 80 GPMSYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	4	3700*			
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			

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

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

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

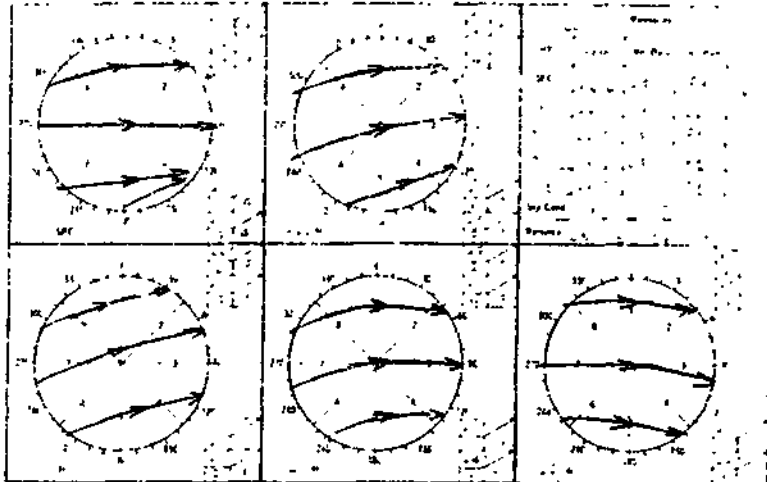
MATERIAL: 2 Fuel Oil, 1 Purple FLOW RATE: 80 GPM
 DATE: 8 July 1963 SYSTEM: HIDAL
 FLIGHT #: 10 AIRSPEED: 55 Knots
 SAMPLE LINE: A ALTITUDE: 75 Feet
 TIME OF RELEASE: 0550 Hours AIRCRAFT COURSE: 270 Degrees
 DURATION: 14 Sec.

STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A.
 Stations 1 - 64 Blank

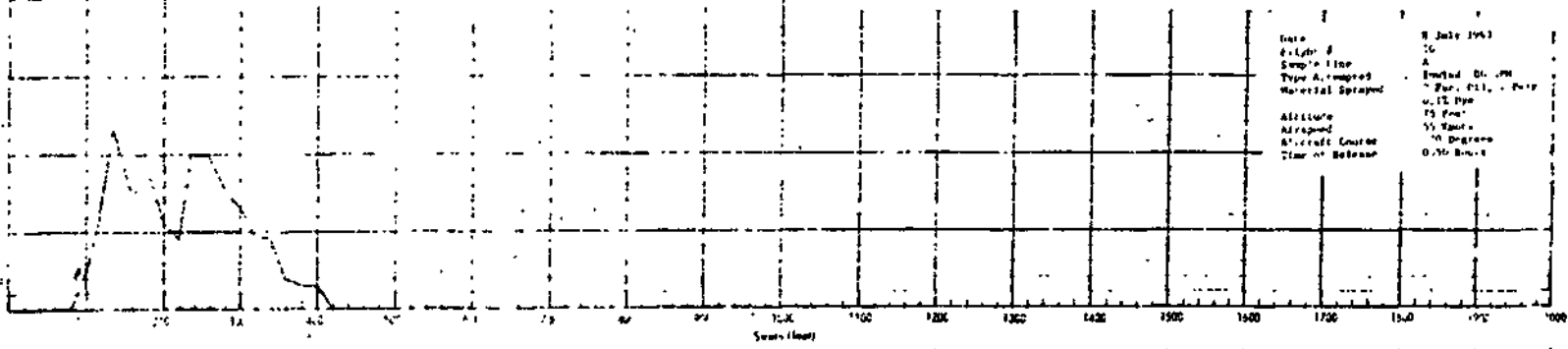
65 0.3
 66 0.3
 67 0.4
 68 0.9
 69 0.9
 70 1.3
 71 1.5
 72 2.0
 73 2.0
 74 0.9
 75 1.1
 76 1.7
 77 1.5
 78 2.3
 79 1.2
 80 0.5

Stations 81 - 100 Blank

Total 18.8



Date 8 July 1943
 Flight # 16
 Type Aircraft A
 Horizontal Sprayed 7 Bar. Dil. - 1000
 Altitude 75 Feet
 Aircraft Course 55 Degrees
 Time of Release 0:50 Hours

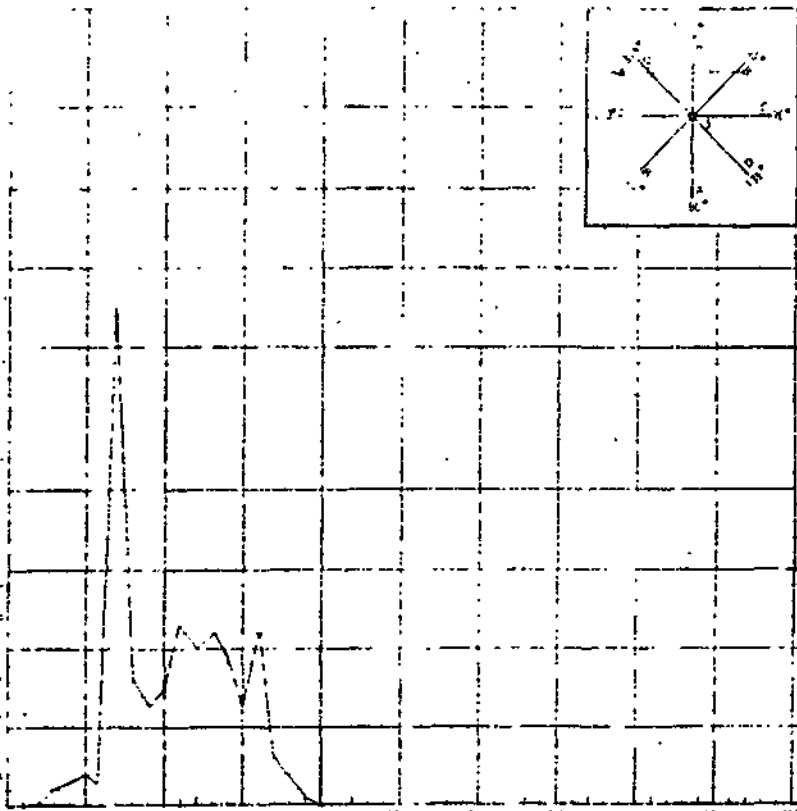
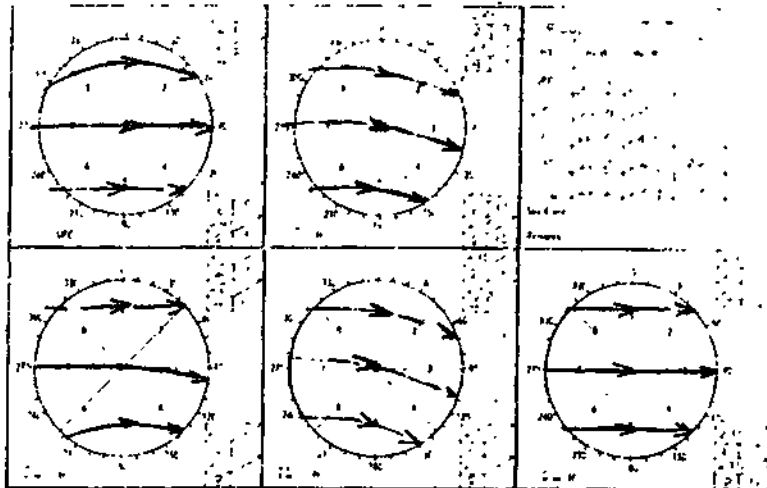
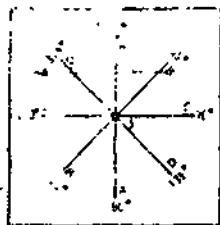


Swath Number

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 83.0 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 11AIRSPEED: 55 knotsSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 0606 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 19 Sec.

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



Date: 8 July 1963
 Flight # : 21
 Station: 4
 Type Acquired: 2 Part Oct. Per.
 Material Spayed: 0.2 m
 Altitude: 75 Feet
 Altitude: 55 Feet
 Azimuth Counter: 270 Degree
 Time of Release: 00.4 hours

Swan (feet)

Station Number

MASS MEDIAN DIAMETER

DATE: 8 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 12PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 83 GPMSYSTEM: 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			

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

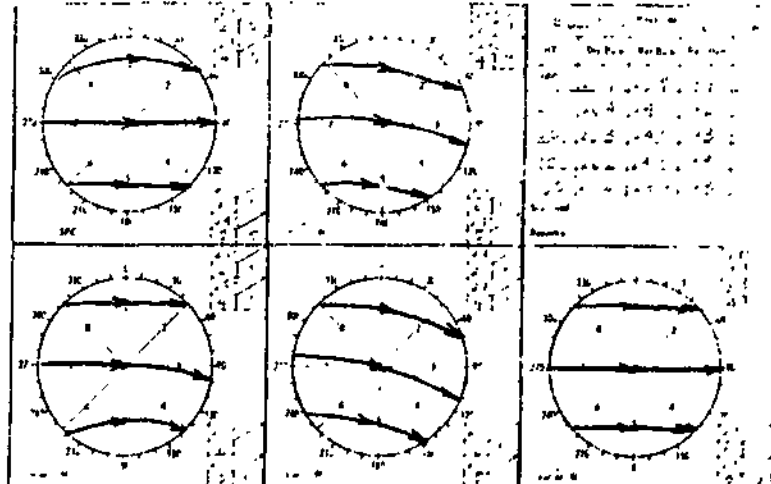
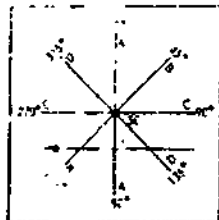
$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420(7000)}{6.430} = \frac{7000}{6.430} = 1061.7 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

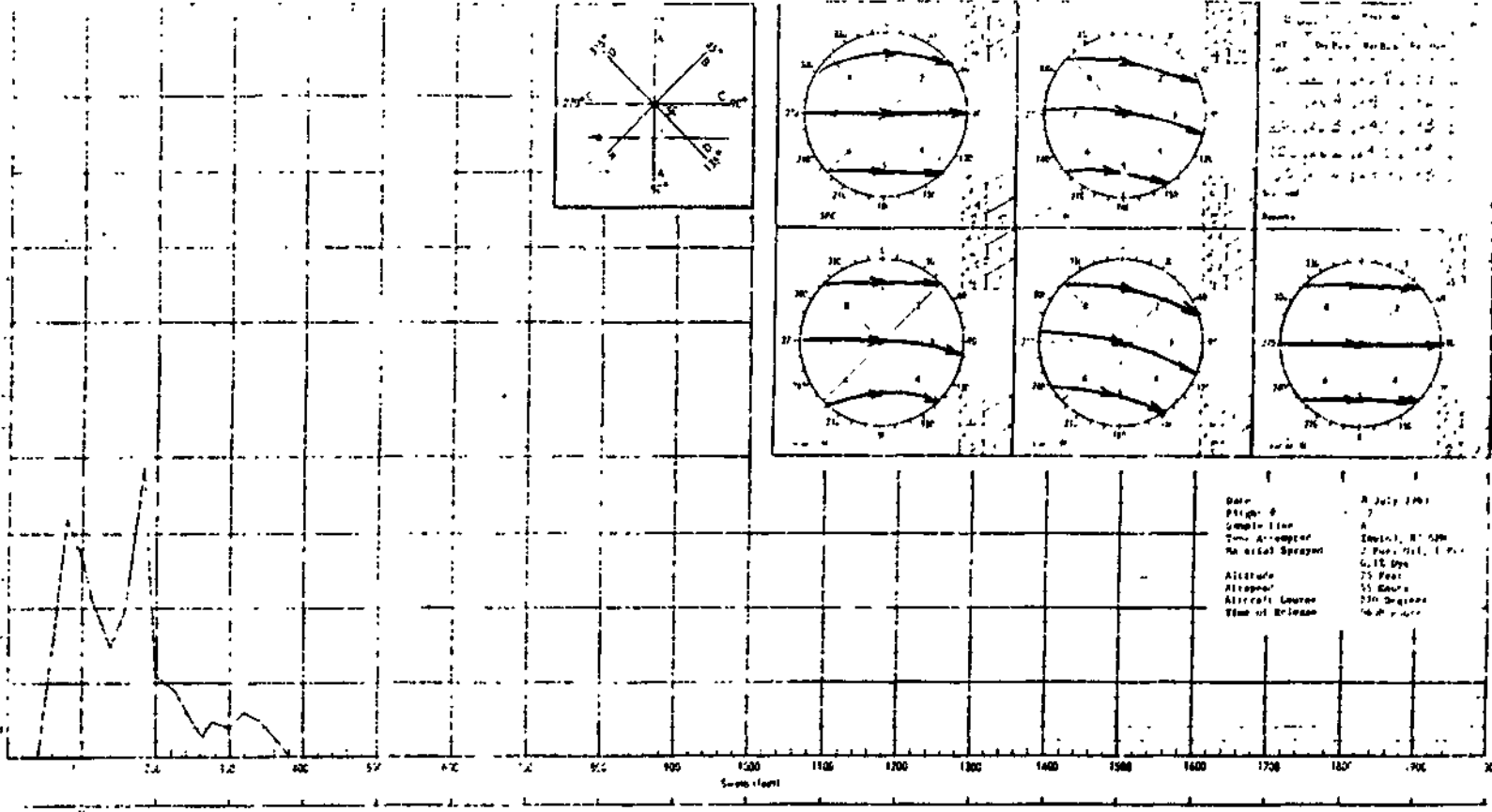
MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 83.0 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 12AIRSPEED: 55 KnotSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 0608 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 14 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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



Date: 8 July 1963
 Flight: 7
 Sample No: A
 Time of Day: 07:50
 No. of Sprays: 2
 Altitude: 5,100 ft
 Altitude: 75 feet
 Aircraft: 55
 Aircraft Location: 530 degrees
 Time of Release: 16:20



Section Number

MASS MEDIAN DIAMETER

DATE: 8 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 13PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 83 GPMSYSTEM: 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			

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

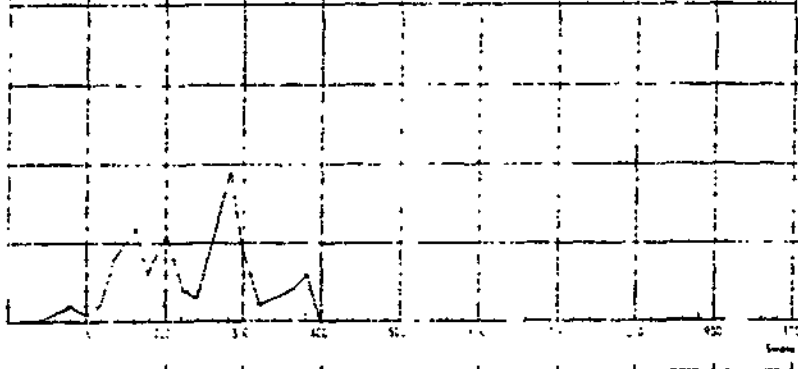
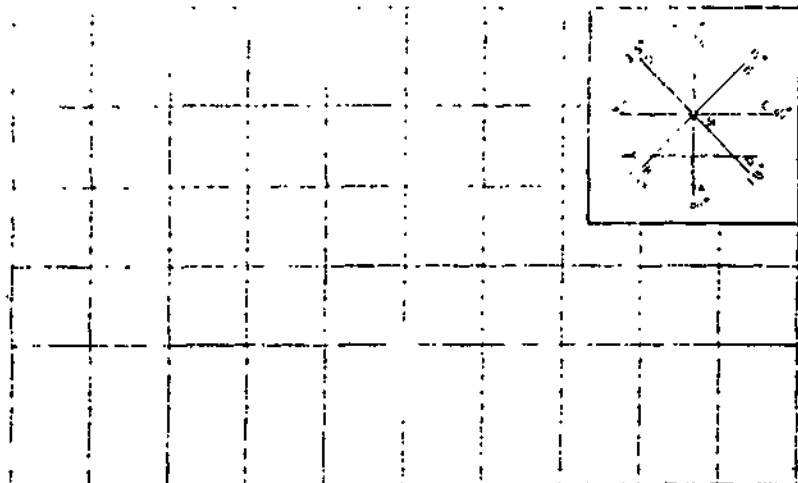
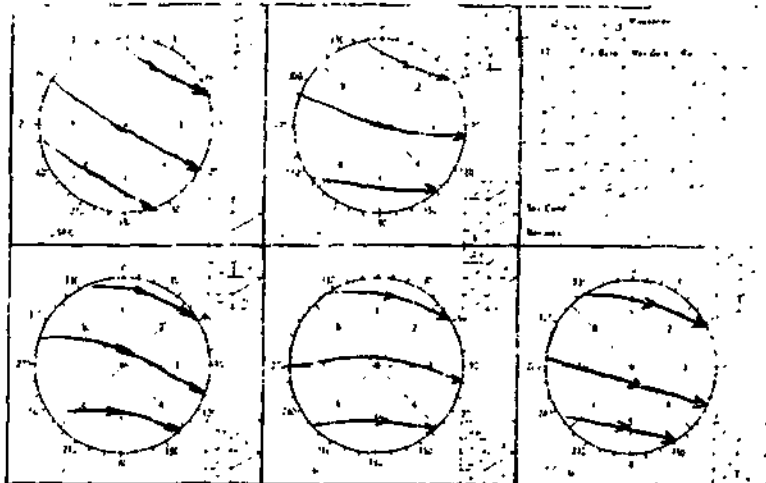
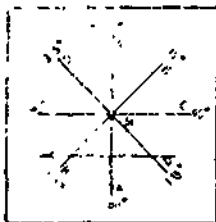
$$\text{Max. Sph. Dia.} = \frac{67.72 + 0.1420(4100)}{6.430} = \frac{4100}{6.430} = 649.8 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 83.0 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 13AIRSPEED: 75 KnotsSAMPLE LINE: AALTITUDE: 50 FeetTIME OF RELEASE: 0628 HoursAIRCRAFT COURSE: 270 DegreesDURATION: 11 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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 : 8 July 1961
 Flight # : 13
 Sample Line : A
 Type of sampler : Swind, S1 099
 Material processed : 2 Fuel Oil, 1 Part. 1,
 1, 10 Spc
 Location : St. Paul
 Airspeed : 7. Hours
 Altitude : 270 feet
 Time of day : 0728 hours

Swamp Height

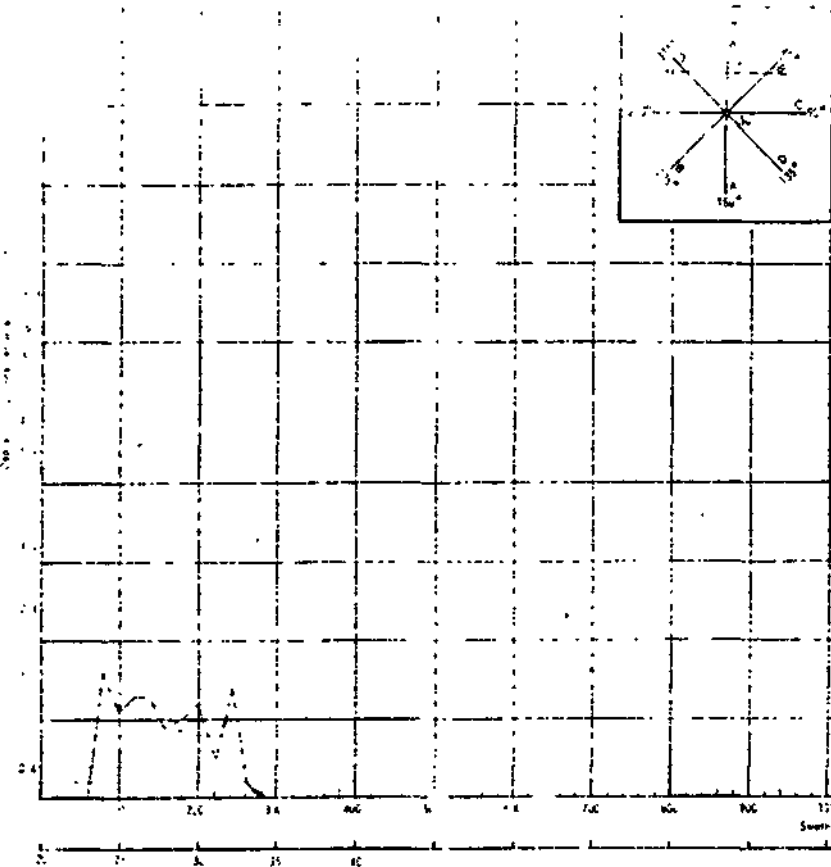
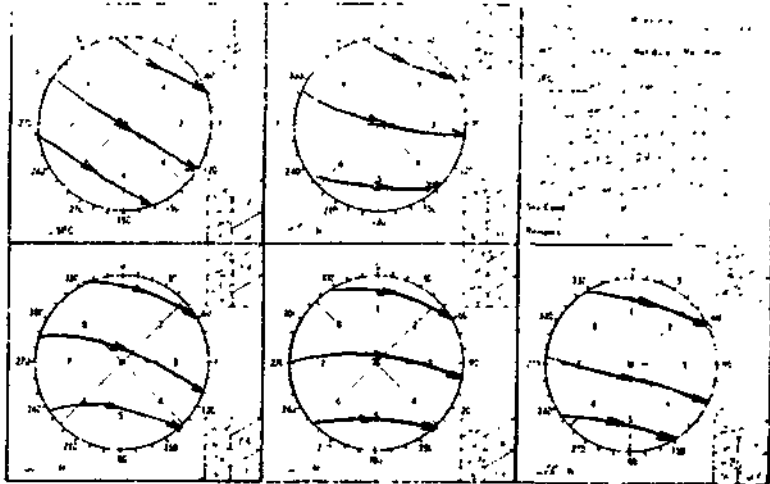
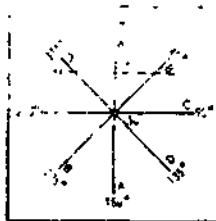
Station Number

MASS DEPOSITMATERIAL: 2 Fuel Oil, 1 PurpleFLOW RATE: 83.0 GPMDATE: 8 July 1963SYSTEM: HIDALFLIGHT #: 14ALTITUDE: 50 FeetSAMPLE LINE: AAIRSPEED: 75 KNOTSTIME OF RELEASE: 0629 HoursAIRCRAFT COURSE: 270 Degrees

DURATION: _____

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



Date : 8 July 1963
 Flight # : 14
 Sample Size : A
 Type of Sample : Liquid, 63-7K
 Material Sprayed : 2 Fuel Oil, 1 Prop
 Altitude : 50 Feet
 Altitude : 75 Feet
 Altitude : 270 Degrees
 Time of Release : 0629 Hour

Swath Feet

Station Number

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: <u>7 July 1963</u>	DATE TEST FLOWN: <u>12 July 1963</u>
LIQUID SPRAYED. <u>Purple</u>	TOTAL NOZZLES OPEN: <u>60</u>
NOZZLE TYPE: <u>8015</u>	LIQUID TEMP: <u>36° C</u>
DURATION OF SPRAY: <u>30 Sec.</u>	PUMP PRESSURE: <u>40 PSI</u>
TOTAL AMOUNT SPRAYED: <u>34.0 Gal.</u>	FLOW RATE CALIBRATED: <u>68 GPM</u>

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 1 - 8.

DATE CALIBRATED. <u>7 July 1963</u>	DATE TEST FLOWN: <u>12 July 1963</u>
LIQUID SPRAYED. <u>Purple</u>	TOTAL NOZZLES OPEN: <u>60</u>
NOZZLE TYPE: <u>Check Valves</u>	LIQUID TEMP: <u>38.5° C</u>
DURATION OF SPRAY: <u>30 Sec.</u>	PUMP PRESSURE: <u>23.5 PSI</u>
TOTAL AMOUNT SPRAYED: <u>34.5 Gal.</u>	FLOW RATE CALIBRATED: <u>69 GPM</u>

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 9 - 14.

MASS MEDIAN DIAMETER

DATE: 12 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 1PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: PurpleFLOW RATE: 68 GPMSYSTEM: 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			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431 \text{ Max Spot} = 70.44 + 0.1431(4400) = 700.1 \text{ Microns}$$

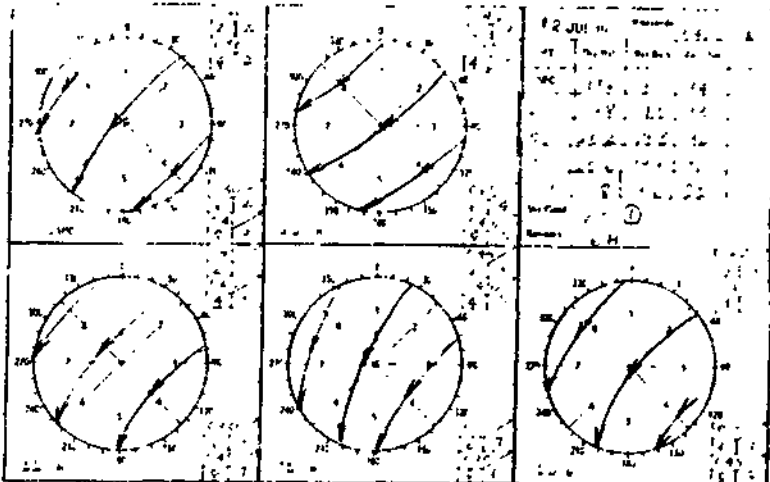
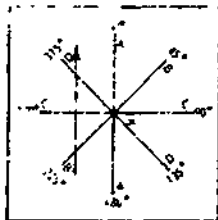
$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 68 GPM
 DATE: 12 July 1963 SYSTEM: HIDAL
 FLIGHT #: 1 AIRSPEED: 75 Knots
 SAMPLE LINE: C ALTITUDE: 100 Feet
 TIME OF RELEASE: 0400 Hours AIRCRAFT COURSE: 360 Degrees
 DURATION: 10 Sec.

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	

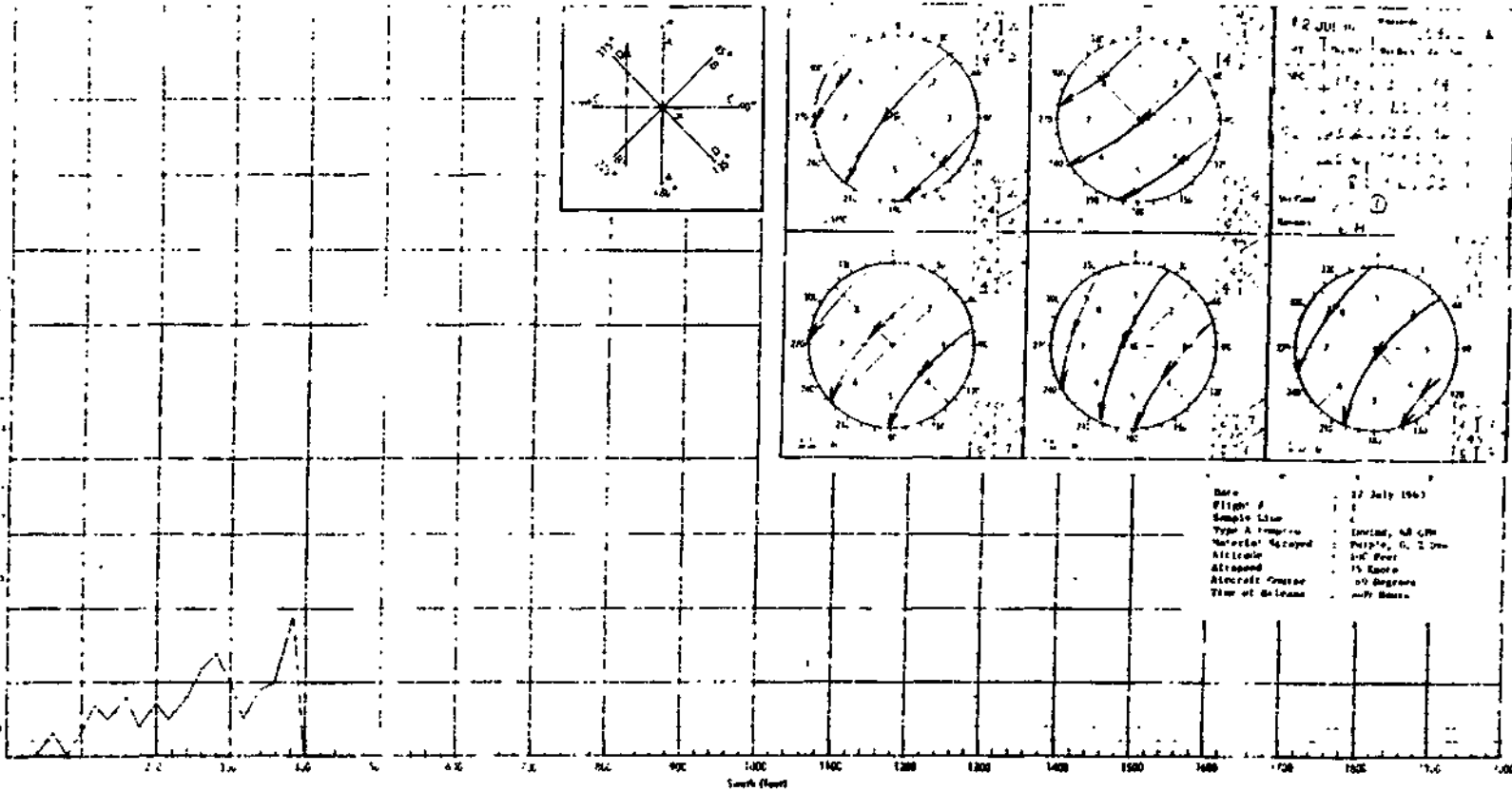
Total 12.9



02 JUL 1963
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Date: 27 July 1963
 Flight #:
 Sample Size:
 Type A Sample:
 Vertical Scrape:
 Altitude:
 Altitude:
 Aircraft Cruise:
 Time of Release:

Series: 40 CPM
 Depth: 0, 2 cm
 100 Feet
 15 Knots
 0° Degree
 100 Miles



Sample 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

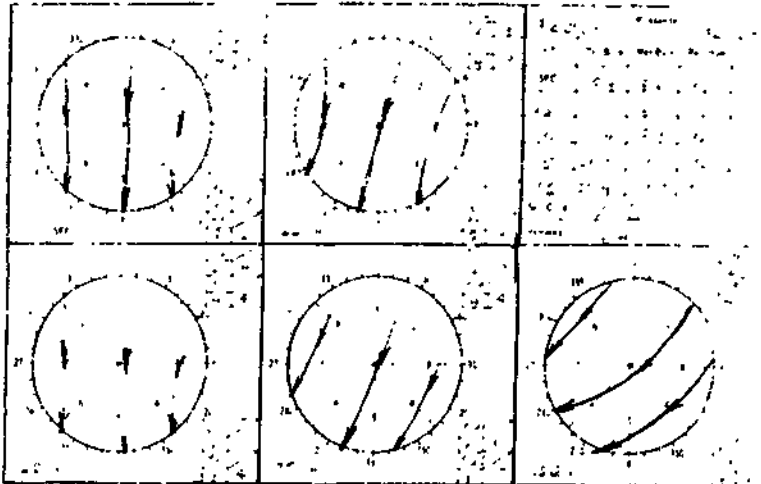
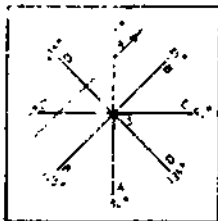
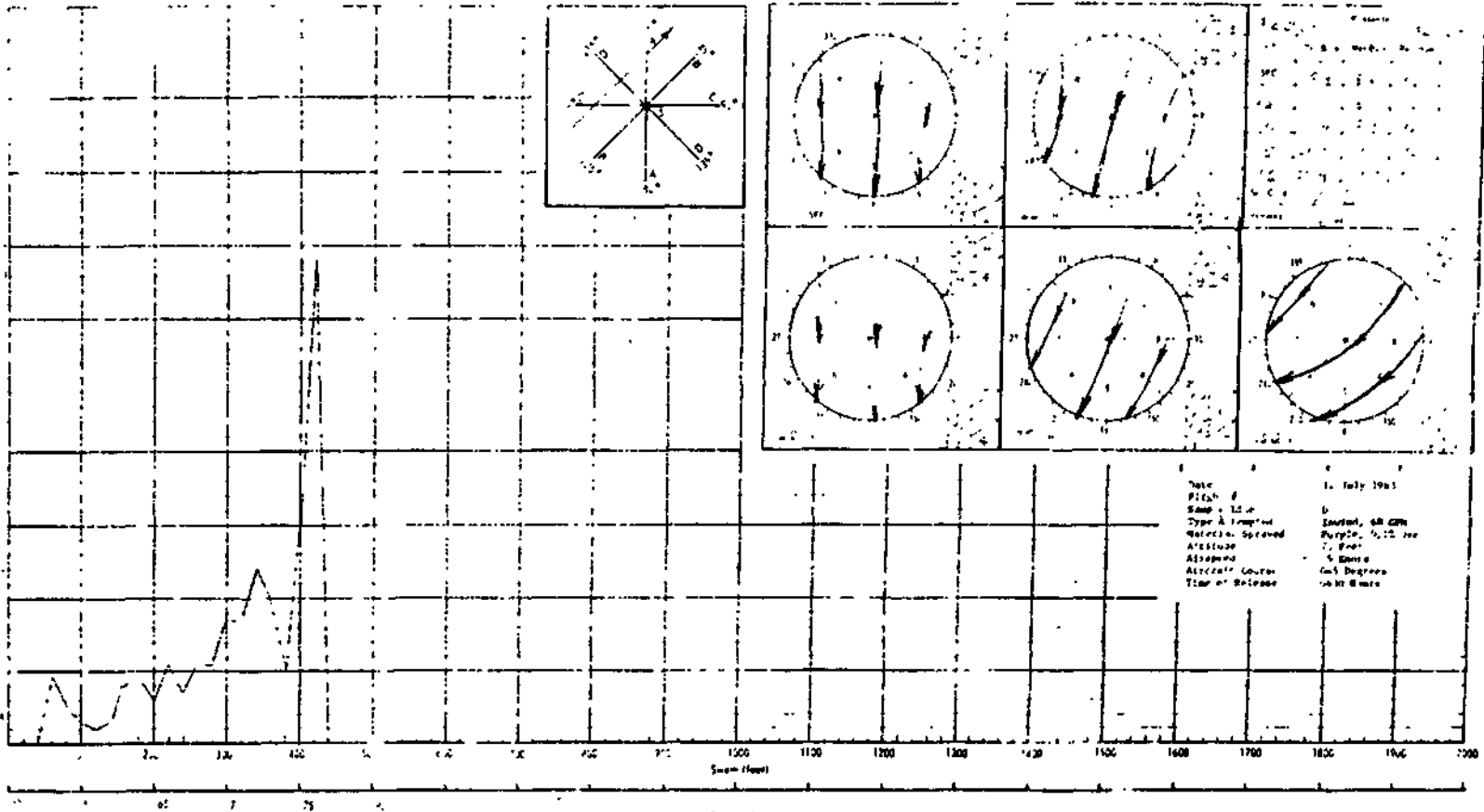
MATERIAL: Purple FLOW RATE: 68 GPM
 DATE: 12 July 1963 SYSTEM: HIDAL
 FLIGHT #: 3 AIRSPEED: 75 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0430 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 13 Sec.

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



Date	1. July 1961
Plot #	
Scale	1:1
Type & Imp't	Control, 6R GPM
Material	Purple, 0.12 in
Altitude	7.000'
Assumed	5.000'
Average Center	6.500'
Time of Release	10:30 AM

Survey Feet

Survey Number

MASS DEPOSIT

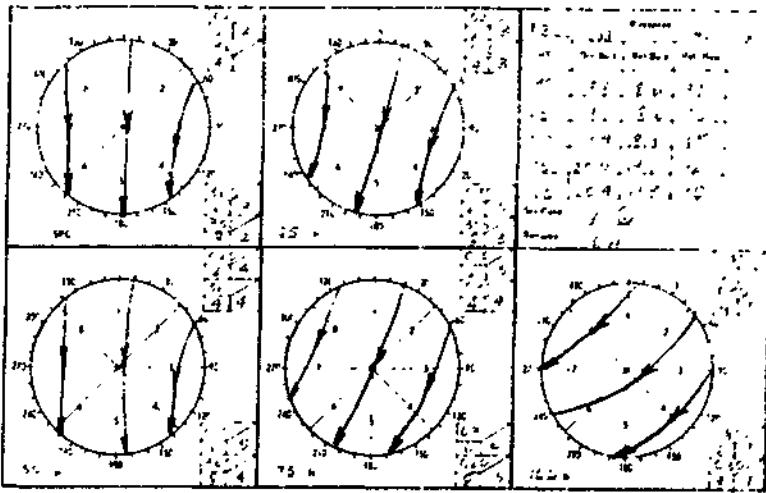
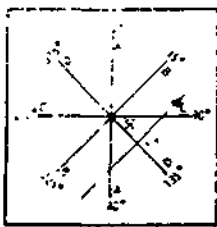
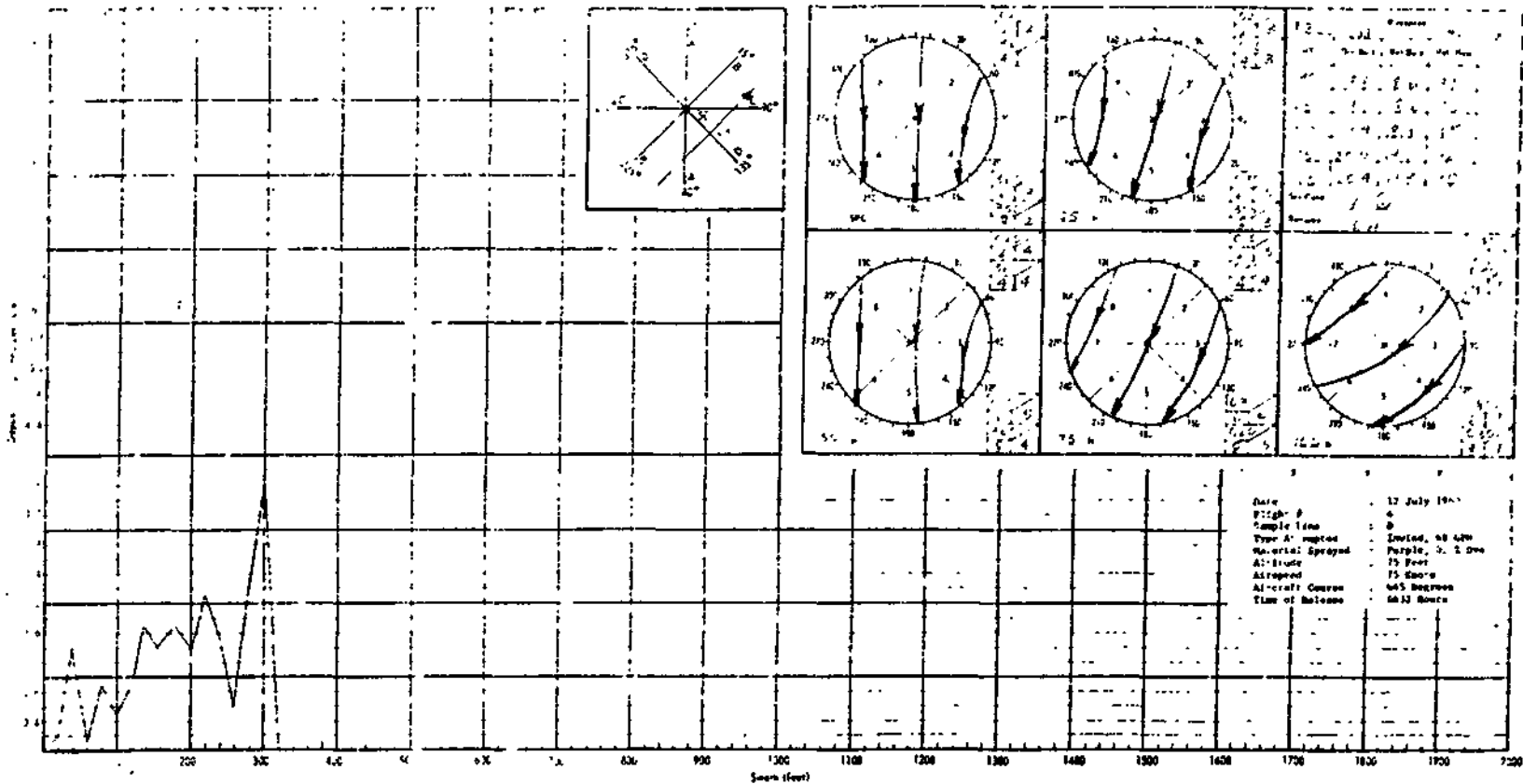
MATERIAL: Purple FLOW RATE: 68 GPM
 DATE: 12 July 1963 SYSTEM: HIDAL
 FLIGHT #: 4 AIRSPEED: 75 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0432 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 11 Sec.

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 17 July 1961
 Flight # 6
 Sample time 0
 Type of magnet Sintered, 48 GM
 Material Sprayed Purple, 2.5 Dm
 Altitude 75 Feet
 Altitude 75 Feet
 Aircraft Ocean 645 Degree
 Time of Release 1613 Hours

Swath (feet)

Station Number

MASS MEDIAN DIAMETER

DATE: 12 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 5PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: PurpleFLOW RATE: 68 GPMSYSTEM: 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			

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

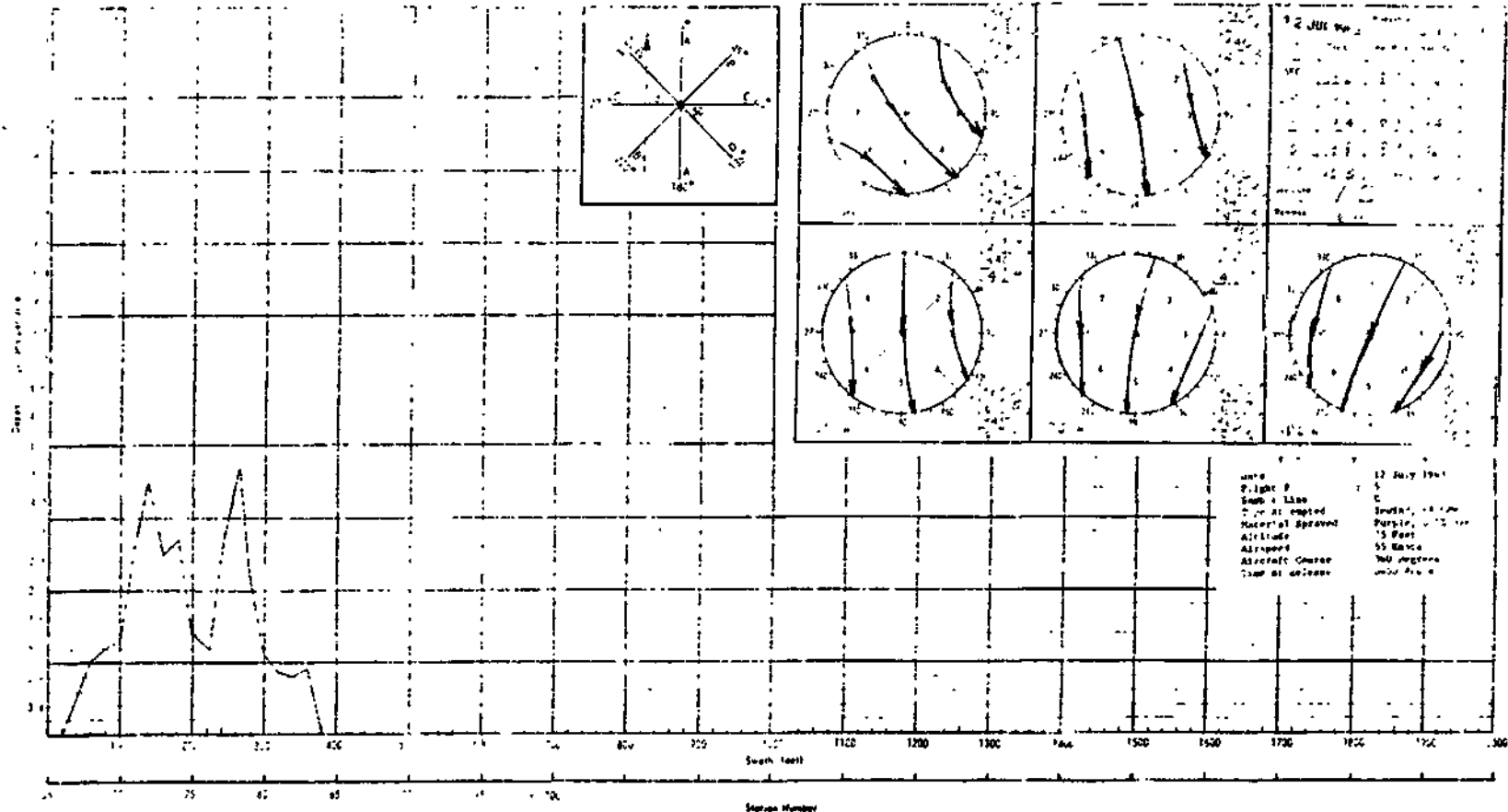
$$\text{Max. Sph. Dia.} = 70.44 + 0.1431 \text{ Max Spot} = 70.44 + 0.1431(6400) = 986.3 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 68 GPMDATE: 12 July 1963SYSTEM: HIDALFLIGHT #: 5AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0452 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 16 Sec.

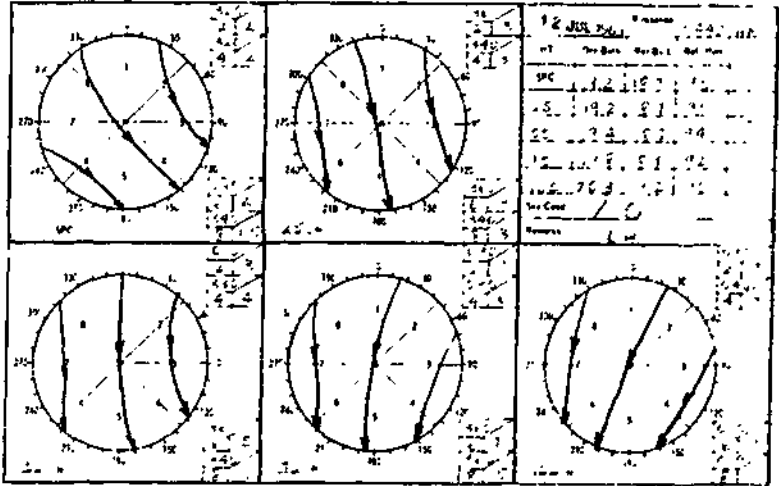
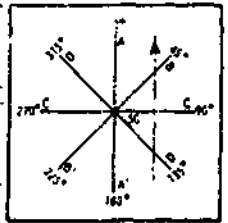
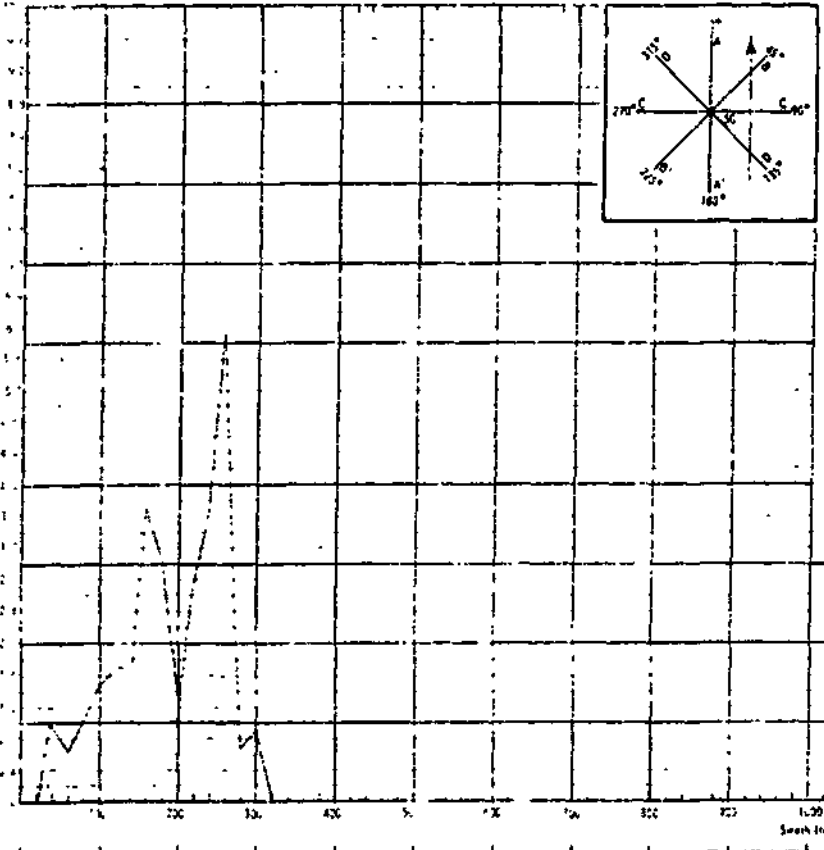
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 66 Blank*							
				67	0.5		
				68	1.0		
				69	1.2		
				70	1.3		
				71	2.7		
				72	3.5		
				73	2.5		
				74	2.7		
				75	1.4		
				76	1.2		
				77	2.7		
				78	3.7		
				79	2.2		
				80	1.1		
				81	0.9		
				82	0.8		
				83	0.9		
Stations 84 - 100 Blank							

 % Recovery - 113.9
Total 3.3



MASS DEPOSITMATERIAL: PurpleFLOW RATE: 68 GPMDATE: 12 July 1963SYSTEM: HIDALFLIGHT #: 6AIRSPEED: 55 KNOTSSAMPLE LINE: CALTITUDE: 75 FEETTIME OF RELEASE: 0452 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 15 Sec.

STATION	C.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			
<p style="text-align: right;">% Recovery - 112.2</p> <p style="text-align: right;">Total <u>29.6</u></p>							



Date: 12 July 1961
 Flight: A
 Sample Line: C
 Type of Sample: Isotopic, 68 CM
 Material: Sprayed: Purple, O. 2 Dye
 Altitude: 75 Feet
 Altitude: 55 Feet
 Aircraft: Course: 300 Degrees
 Time of Access: 0432 Hours

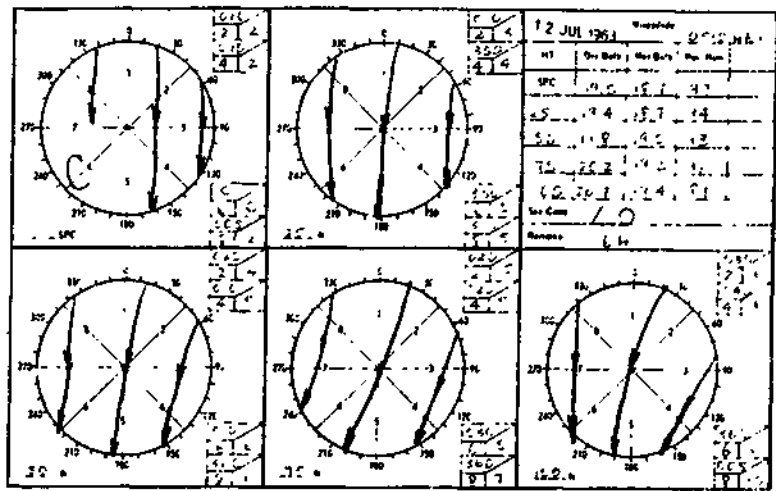
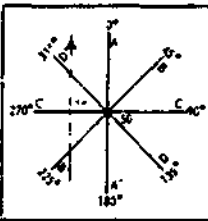
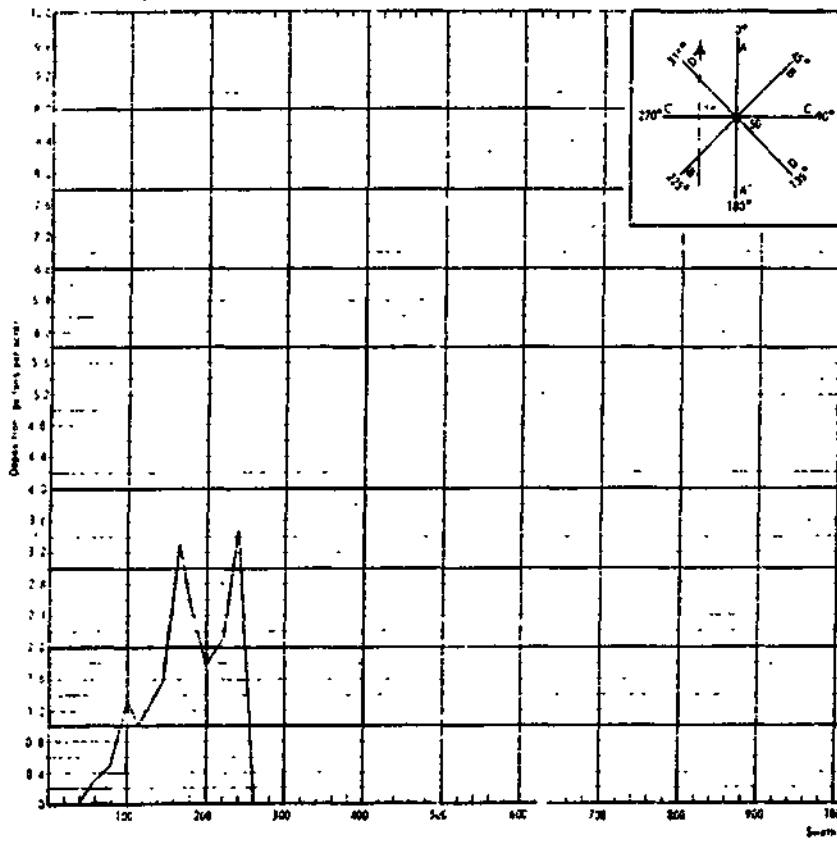
Swath (feet)

Station Number

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 68 GPH.DATE 12 July 1963SYSTEM: HIDALFLIGHT #: 7AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0510 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 12 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
				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 : 17 July 1961
 Flight # : 7
 Sample Line : C
 Type Accepted : Insect, 49 GPM
 Material Sprayed : Purple, 0.12 lbs
 Altitude : 75 Feet
 Airspeed : 75 MPH
 Aircraft Course : 300 Degrees
 Time of Release : 0510 Hours

MASS MEDIAN DIAMETER

DATE: 12 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 8PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: PurpleFLOW RATE: 68 GPMSYSTEM: 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			

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

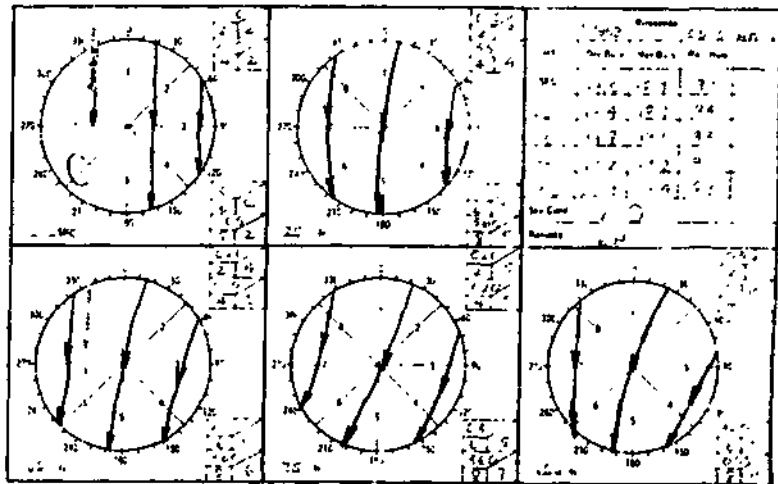
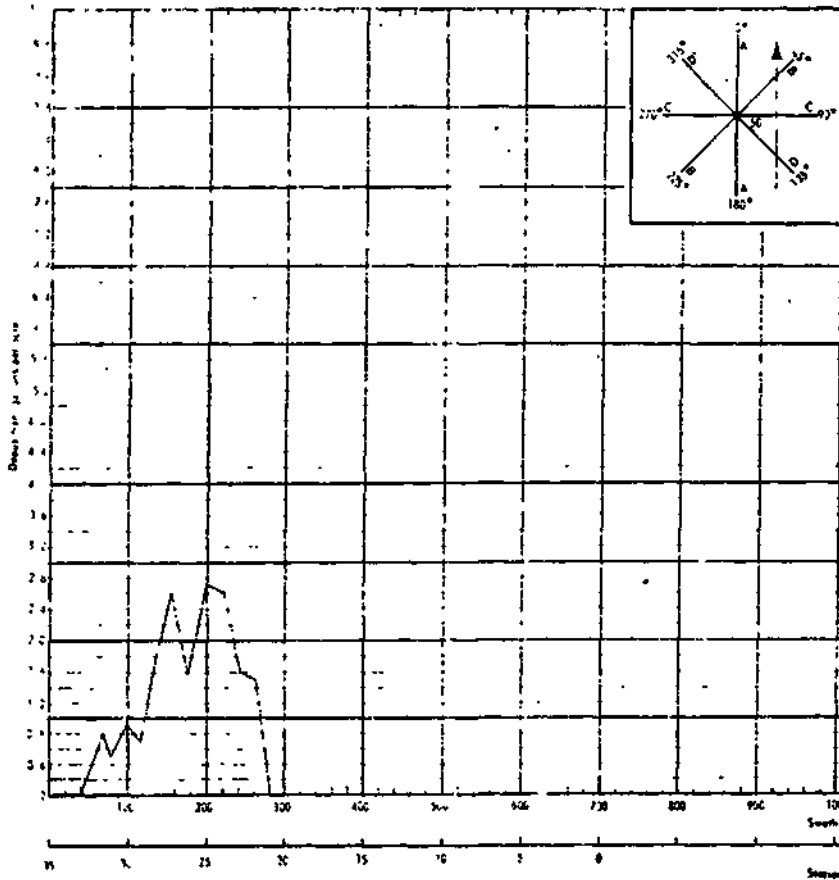
$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(4700) = 743.0 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 68 GPMDATE: 12 July 1963SYSTEM: WIDALFLIGHT #: 8AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0512 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 10 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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

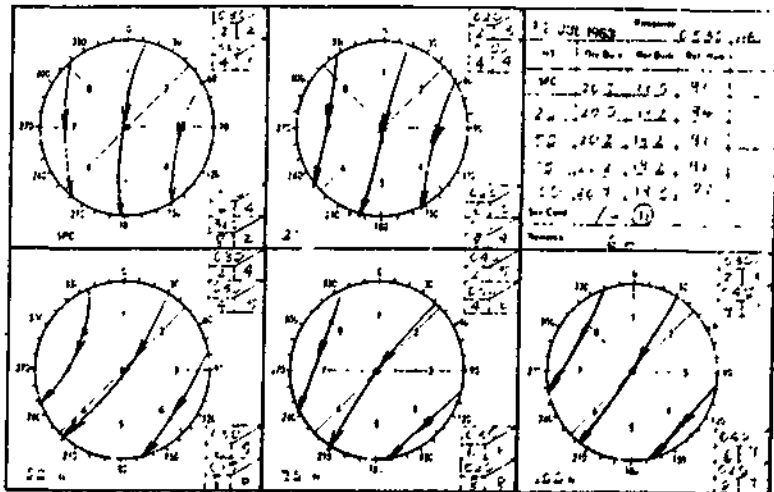
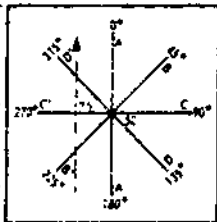


Date : 12 July 1963
 Flight # : 8
 Sample Line : C
 Type Attempted : Inverted, 40 GPH
 Material Sprayed : Purple, 0.75 Oz
 Altitude : 75 Feet
 Airspeed : 75 Knots
 Aircraft Course : 360 Degrees
 Time of Release : 0317 Hours

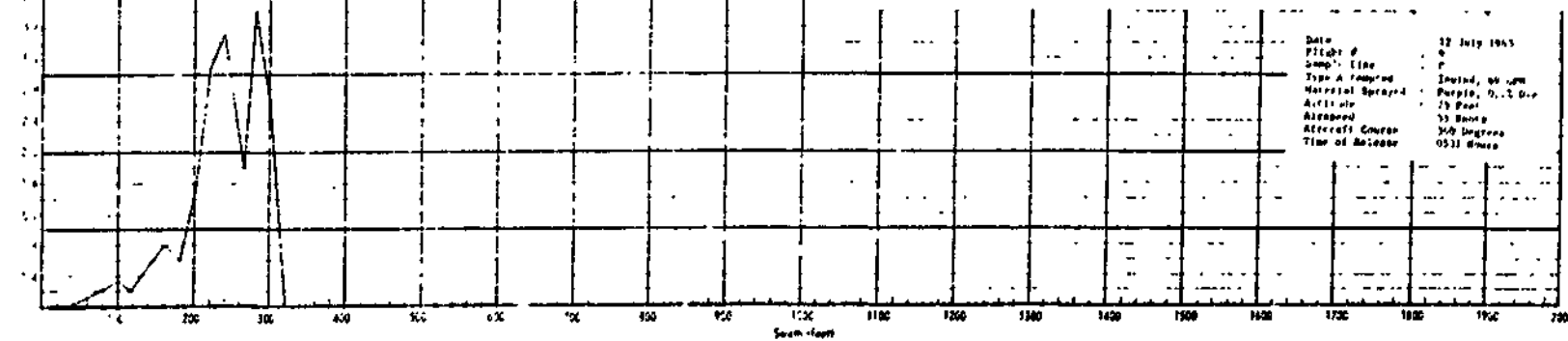
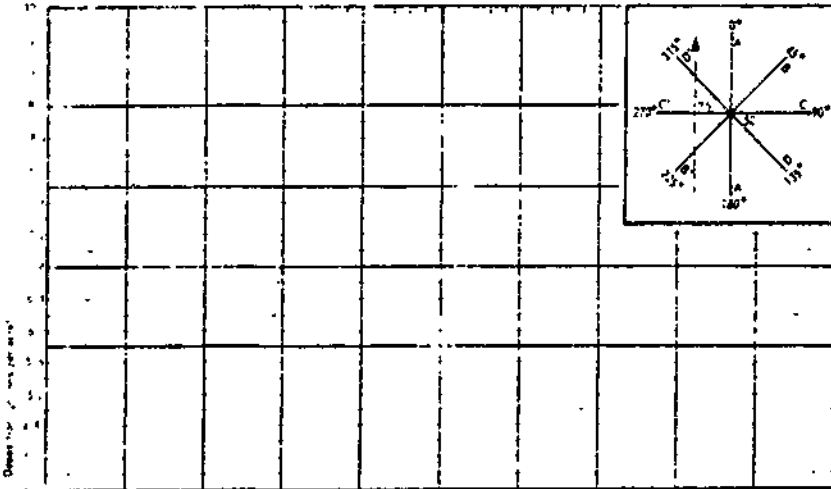
MASS DEPOSITMATERIAL PurpleFLOW RATE: 69 GPMDATE 12 July 1963SYSTEM: HIDALFLIGHT #: 9AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0531 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 10 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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	0.9		
				83	0.5		
				84	0.2		
				85	0.3		
				86	0.2		
				87	0.1		
				Stations 88 - 100			
							Blank

Total 19.0



12 JUL 1965
 MC 26 2 11.5 91
 24 24 5 12.2 74
 25 20 2 12.2 91
 26 24 2 12.2 91
 27 24 7 12.2 91
 28 24 7 12.2 91
 29 24 7 12.2 91
 30 24 7 12.2 91
 31 24 7 12.2 91
 32 24 7 12.2 91
 33 24 7 12.2 91
 34 24 7 12.2 91
 35 24 7 12.2 91
 36 24 7 12.2 91
 37 24 7 12.2 91
 38 24 7 12.2 91
 39 24 7 12.2 91
 40 24 7 12.2 91
 41 24 7 12.2 91
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 90 24 7 12.2 91
 91 24 7 12.2 91
 92 24 7 12.2 91
 93 24 7 12.2 91
 94 24 7 12.2 91
 95 24 7 12.2 91
 96 24 7 12.2 91
 97 24 7 12.2 91
 98 24 7 12.2 91
 99 24 7 12.2 91
 100 24 7 12.2 91



Date 12 July 1965
 Flight # 4
 Samp. Line P
 Type A ramped Inerted, 40 cm
 Material Sprayed Purple, 0.2 D.P.
 Activator 15 gear
 Airspeed 35 knots
 Aircraft Course 340 Degree
 Time of Release 0331 Hours

90 80 70

Station Number

MASS DEPOSITMATERIAL PurpleFLOW RATE: 69 GPMDATE: 12 July 1963SYSTEM: HIDALFLIGHT #: 10AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0533 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 13 Sec.

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				

MASS MEDIAN DIAMETER

DATE: 12 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 11PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: PurpleFLOW RATE: 69 GPMSYSTEM: 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			

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

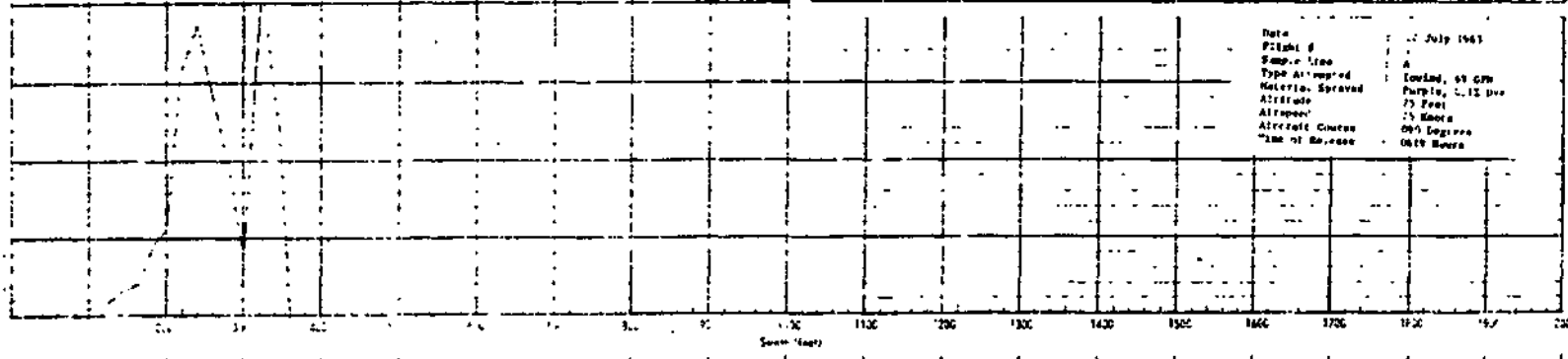
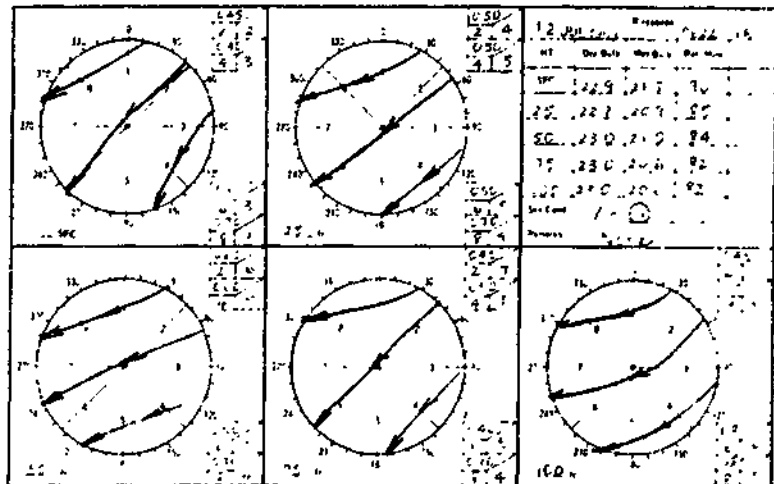
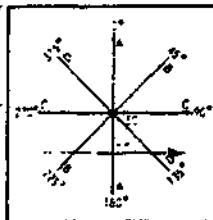
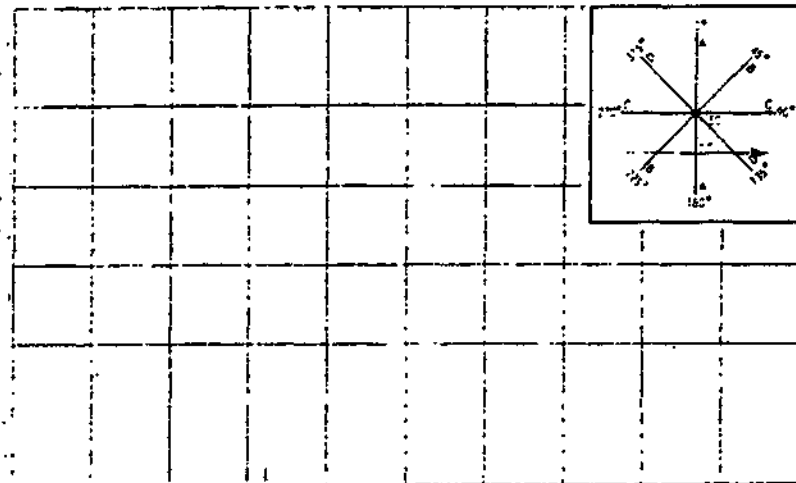
$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(7400) = 1120.4 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 60 gDATE: 12 July 1963SYSTEM: WINDFLIGHT #: 11AIRSPEED: 75 KnotsSAMPLE LINE: AALTITUDE: 75 FeetTIME OF RELEASE: 620 HoursAIRCRAFT COURSE: 090 DegreesDURATION: 1 Sec.

STATION	P.A.	STATION	P.A.	STATION	P.A.	STATION	P.A.
Stations 1 - 71	Blank					72	0.9
						73	2.4
						74	4.2
						75	6.9
						76	2.0
						77	2.8
						78	3.7
						79	3.1
						80	1.1
						81	2.0
						82	0.4
						83	0.3
						84	0.1
						85	0.1
						Stations 86 - 100	Blank

Total 22.0



Date: 12 July 1963
 Flight #: A
 Sample time: 12:50
 Type of spread: Iovine, 45 GPM
 Material: Sprayed Purple, 0.12 lbs
 Altitude: 75 Feet
 Altitude: 25 Meters
 Altitude: 800 Meters
 Altitude: 0819 Meters

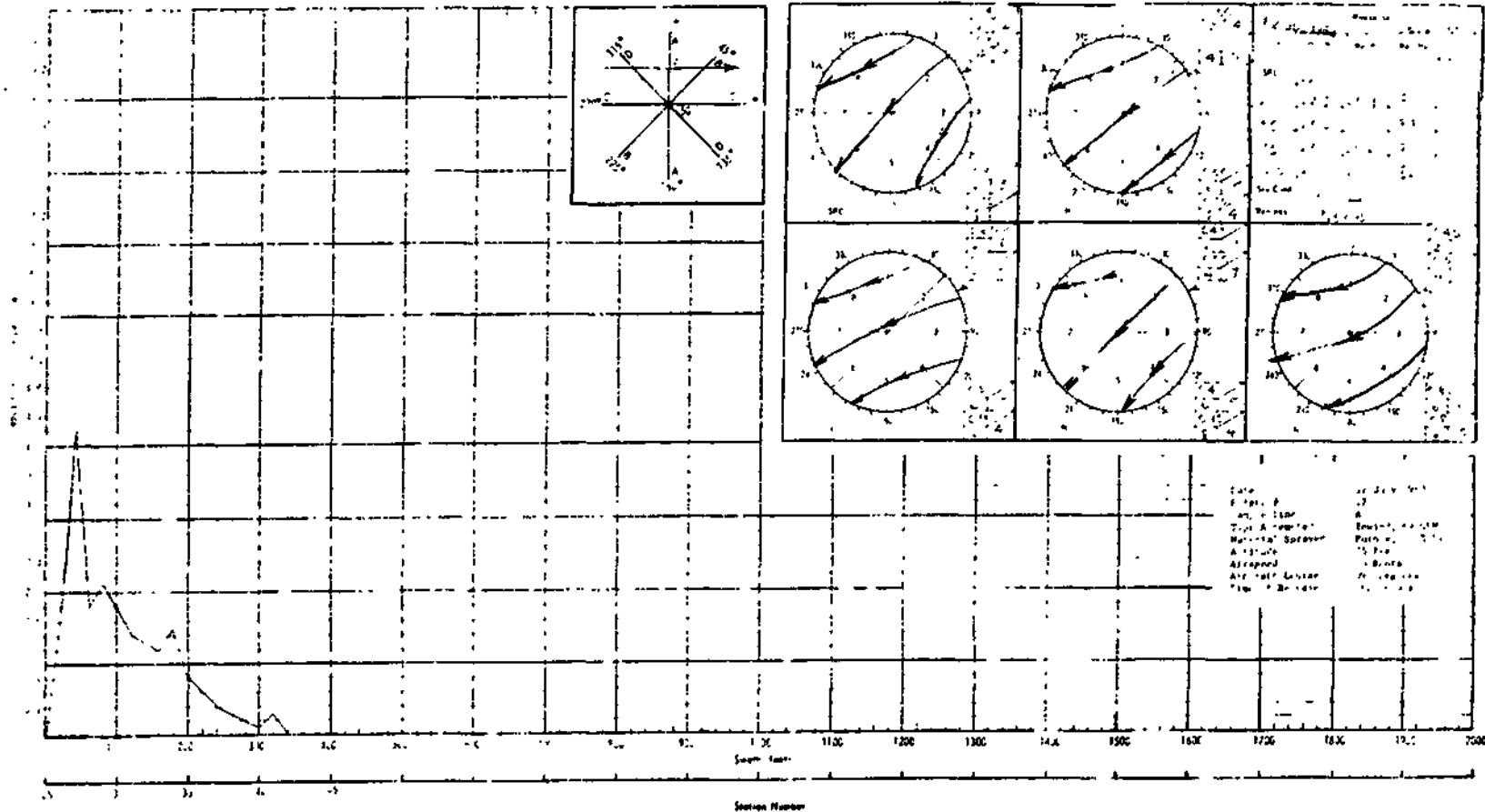
South Feet
 Station Number

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 12 July 1963 SYSTEM: HIDAL
 FLIGHT #: 12 AIRSPEED: 75 Knots
 SAMPLE LINE: A ALTITUDE: 75 Feet
 TIME OF RELEASE: 0619 Hours AIRCRAFT COURSE: 090 Degrees
 DURATION: 12 Sec.

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

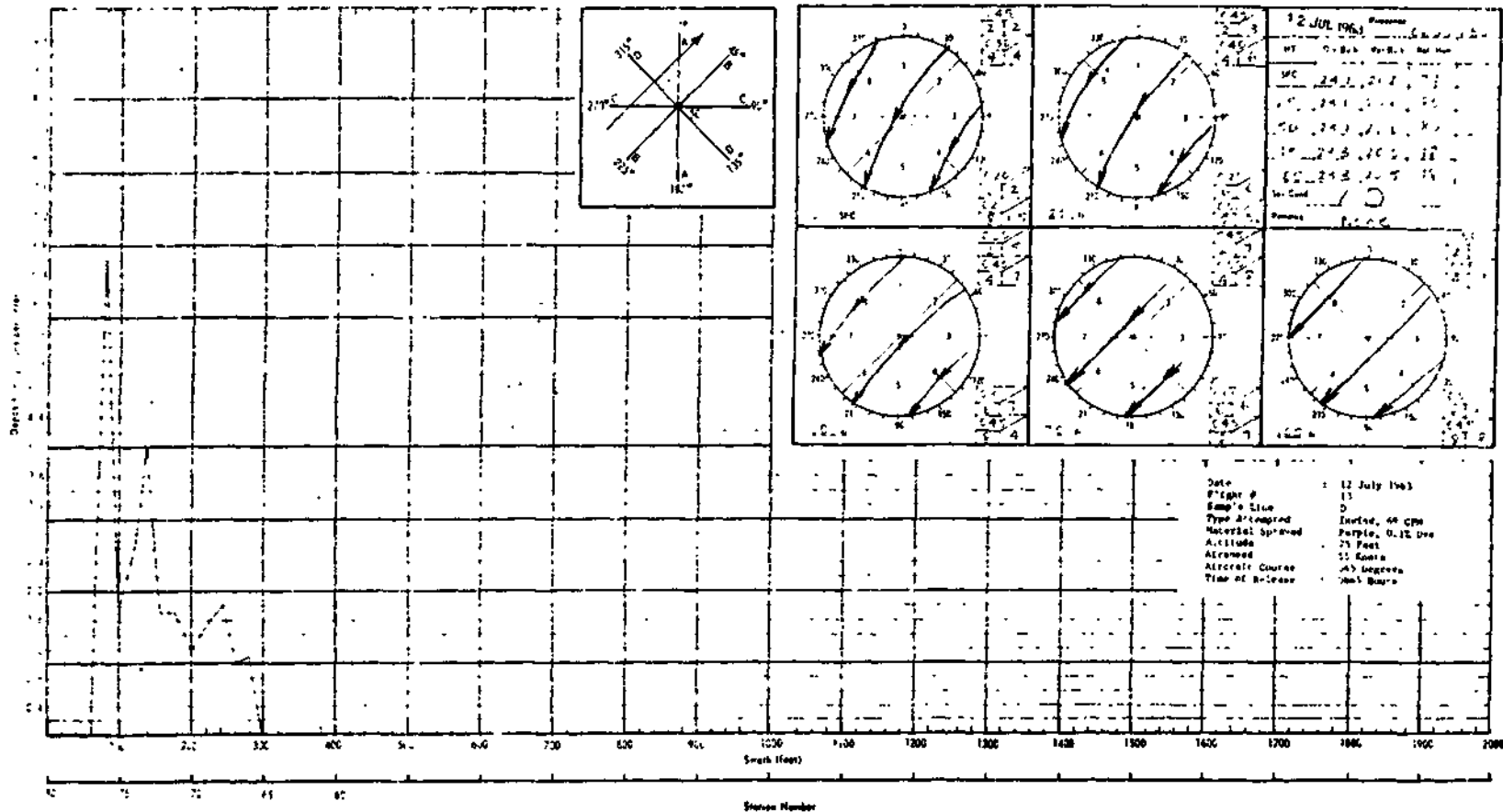


MISS DEPOSIT

MATERIAL: Purple FLOW RATE: 60 GPM
 DATE: 12 JUL, 1963 SYSTEM: TIDAL
 FLIGHT #: 13 AIRSPEED: 55 KNOTS
 SAMPLE LINE: D ALTITUDE: 75 FEET
 TIME OF RELEASE: 0645 HOURS AIRCRAFT COURSE: 045 DEGREES
 DURATION: 12 SEC.

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



MASS MEDIAN DIAMETER

DATE: 12 July 1953CONVERSION FACTOR: 2.2FLIGHT #: 14PAPER: Kronakote, whiteSAMPLE LINE: DMATERIAL: PurpleFLOW RATE: 69 GPMSYSTEM: HYDAL

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	3	6000			
23	6	5900			
22	8	5800			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(7200) = 1100.9 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

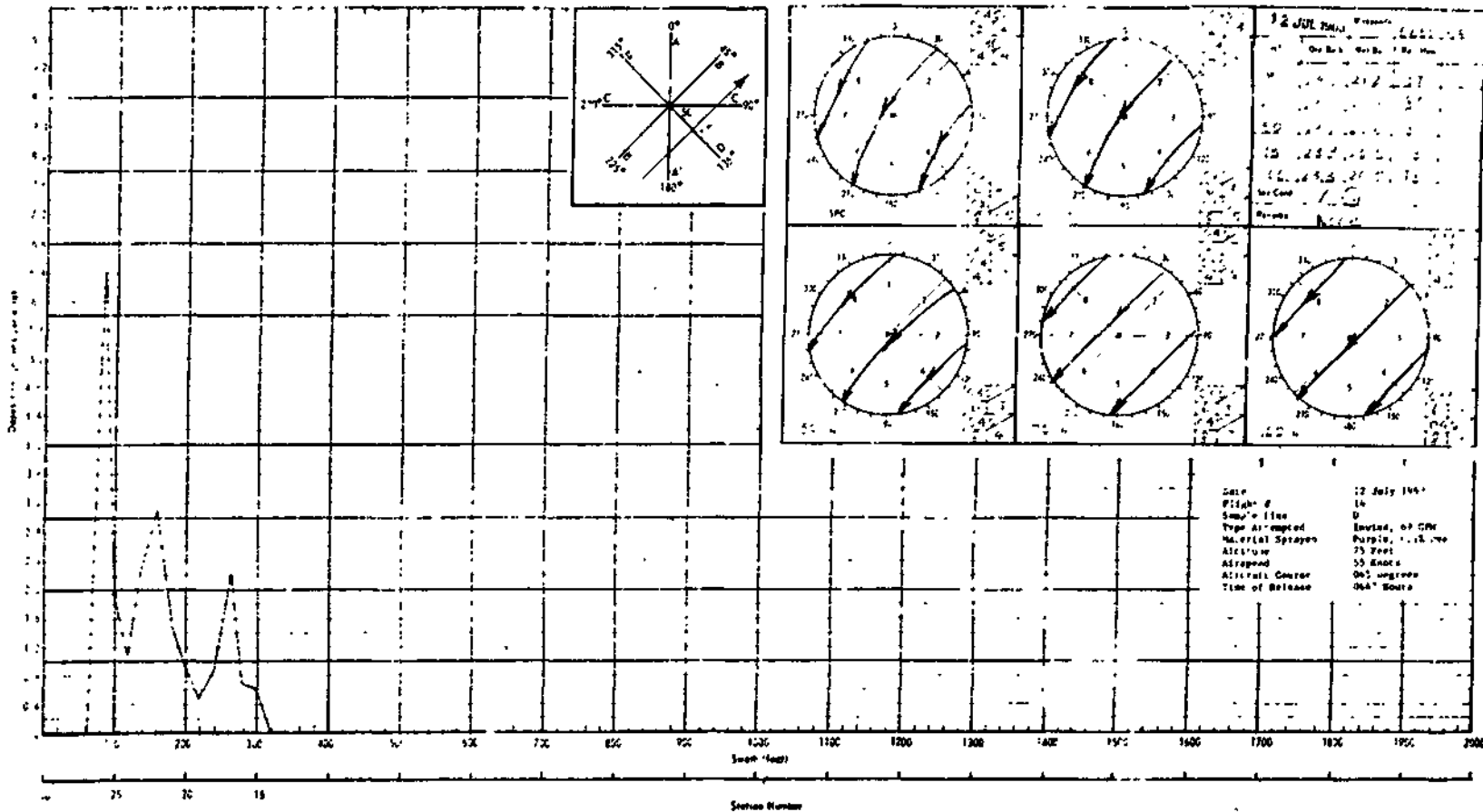
MASS DEPOSITMATERIAL: PurpleFLOW RATE: 69 GPMDATE: 12 July 1963SYSTEM: HIDALFLIGHT #: 14AIRSPEED: 55 KnotsSAMPLE LINE: DALTITUDE: 75 FeetTIME OF RELEASE: 0647 HoursAIRCRAFT COURSE: 045 DegreesDURATION: 14 Sec.

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



H-34/HIDAL GROUND FLOW AND FLIGHT DATA

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

OPERATIONAL DATA DURING FLIGHT

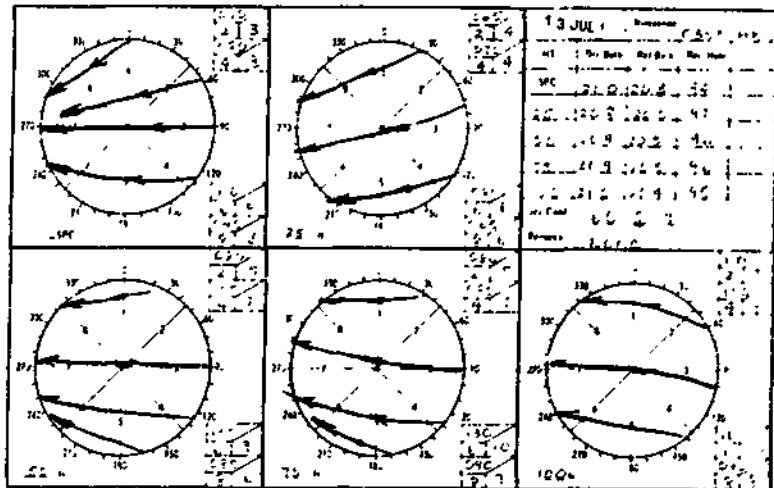
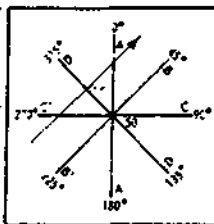
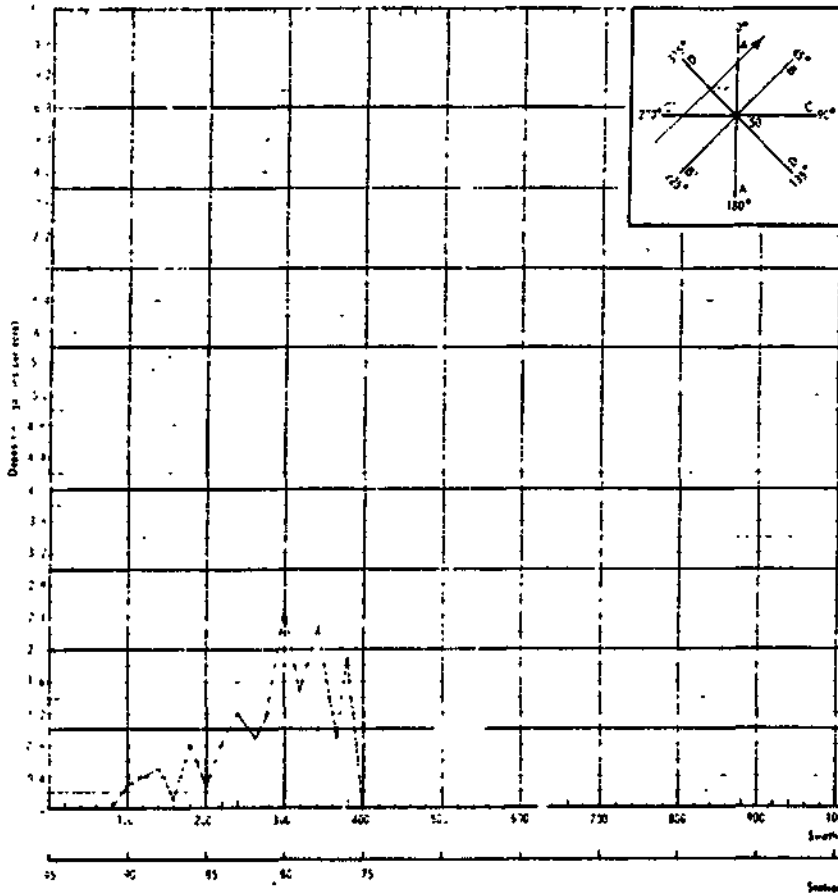
Above information is for Runs 1 - 18.

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 6.0 GPMDATE: 13 July 1963SYSTEM: WINDFLIGHT #: 1AIRSPEED: 75 KnotsSAMPLE LINE: DALTITUDE: 75 FeetTIME OF RELEASE: 0351 HoursAIRCRAFT COURSE: 045 Degrees

DURATION: _____

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 75	Blank					76	1.3
						77	1.5
						78	1.3
						79	1.5
						80	1.5
						81	1.1
						82	1.2
						83	1.2
						84	1.8
						85	1.3
						86	1.8
						87	1.1
						88	0.5
						89	0.5
						90	1.3
						91	0.5
						Stations 92 - 100	Blank

Total 15.6



13 JUL 1963

ST	Dr. Date	Dr. No.	Dr. Time
MC	22.0.12.0	55	
	22.0.12.0	57	
	22.0.12.0	58	
	22.0.12.0	59	
	22.0.12.0	60	
	22.0.12.0	61	
	22.0.12.0	62	
	22.0.12.0	63	
	22.0.12.0	64	
	22.0.12.0	65	
	22.0.12.0	66	
	22.0.12.0	67	
	22.0.12.0	68	
	22.0.12.0	69	
	22.0.12.0	70	
	22.0.12.0	71	
	22.0.12.0	72	
	22.0.12.0	73	
	22.0.12.0	74	
	22.0.12.0	75	
	22.0.12.0	76	
	22.0.12.0	77	
	22.0.12.0	78	
	22.0.12.0	79	
	22.0.12.0	80	
	22.0.12.0	81	
	22.0.12.0	82	
	22.0.12.0	83	
	22.0.12.0	84	
	22.0.12.0	85	
	22.0.12.0	86	
	22.0.12.0	87	
	22.0.12.0	88	
	22.0.12.0	89	
	22.0.12.0	90	
	22.0.12.0	91	
	22.0.12.0	92	
	22.0.12.0	93	
	22.0.12.0	94	
	22.0.12.0	95	
	22.0.12.0	96	
	22.0.12.0	97	
	22.0.12.0	98	
	22.0.12.0	99	
	22.0.12.0	100	
	22.0.12.0	101	
	22.0.12.0	102	
	22.0.12.0	103	
	22.0.12.0	104	
	22.0.12.0	105	
	22.0.12.0	106	
	22.0.12.0	107	
	22.0.12.0	108	
	22.0.12.0	109	
	22.0.12.0	110	
	22.0.12.0	111	
	22.0.12.0	112	
	22.0.12.0	113	
	22.0.12.0	114	
	22.0.12.0	115	
	22.0.12.0	116	
	22.0.12.0	117	
	22.0.12.0	118	
	22.0.12.0	119	
	22.0.12.0	120	
	22.0.12.0	121	
	22.0.12.0	122	
	22.0.12.0	123	
	22.0.12.0	124	
	22.0.12.0	125	
	22.0.12.0	126	
	22.0.12.0	127	
	22.0.12.0	128	
	22.0.12.0	129	
	22.0.12.0	130	
	22.0.12.0	131	
	22.0.12.0	132	
	22.0.12.0	133	
	22.0.12.0	134	
	22.0.12.0	135	
	22.0.12.0	136	
	22.0.12.0	137	
	22.0.12.0	138	
	22.0.12.0	139	
	22.0.12.0	140	
	22.0.12.0	141	
	22.0.12.0	142	
	22.0.12.0	143	
	22.0.12.0	144	
	22.0.12.0	145	
	22.0.12.0	146	
	22.0.12.0	147	
	22.0.12.0	148	
	22.0.12.0	149	
	22.0.12.0	150	
	22.0.12.0	151	
	22.0.12.0	152	
	22.0.12.0	153	
	22.0.12.0	154	
	22.0.12.0	155	
	22.0.12.0	156	
	22.0.12.0	157	
	22.0.12.0	158	
	22.0.12.0	159	
	22.0.12.0	160	
	22.0.12.0	161	
	22.0.12.0	162	
	22.0.12.0	163	
	22.0.12.0	164	
	22.0.12.0	165	
	22.0.12.0	166	
	22.0.12.0	167	
	22.0.12.0	168	
	22.0.12.0	169	
	22.0.12.0	170	
	22.0.12.0	171	
	22.0.12.0	172	
	22.0.12.0	173	
	22.0.12.0	174	
	22.0.12.0	175	
	22.0.12.0	176	
	22.0.12.0	177	
	22.0.12.0	178	
	22.0.12.0	179	
	22.0.12.0	180	
	22.0.12.0	181	
	22.0.12.0	182	
	22.0.12.0	183	
	22.0.12.0	184	
	22.0.12.0	185	
	22.0.12.0	186	
	22.0.12.0	187	
	22.0.12.0	188	
	22.0.12.0	189	
	22.0.12.0	190	
	22.0.12.0	191	
	22.0.12.0	192	
	22.0.12.0	193	
	22.0.12.0	194	
	22.0.12.0	195	
	22.0.12.0	196	
	22.0.12.0	197	
	22.0.12.0	198	
	22.0.12.0	199	
	22.0.12.0	200	

Date: 13 July 1963
 Flight #: 1
 Sample Line: 8
 Type Attempted: Sounding, 65 MPH
 Material Sprayed: Purple, O. S. Br.
 Altitude: 75 Feet
 Airspeed: 75 Kmph
 Aircraft Course: 045 Degrees
 Time of Release: 0151 Hours

MASS MEDIAN DIAMETER

DATE: 13 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 2PAPER: Kromekote, whiteSAMPLE LINE: DMATERIAL: PurpleFLOW RATE: 69 GPMSYSTEM: 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			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(8500) = 1286.8 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 60 GPMDATE: 13 July 1963SYSTEM: HIDALFLIGHT #: 2AIRSPEED: 75 KnotSAMPLE LINE: DALTITUDE: 75 FeetTIME OF RELEASE: 0353 HoursAIRCRAFT COURSE: 045 DegreesDURATION: ---

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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

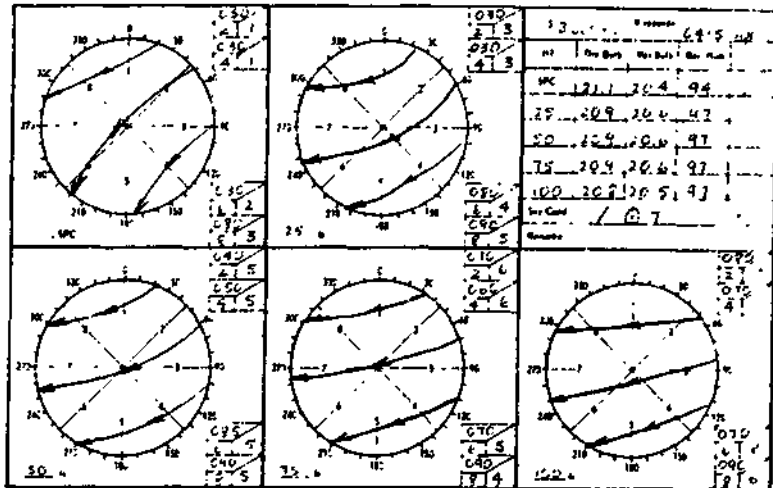
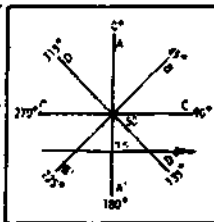
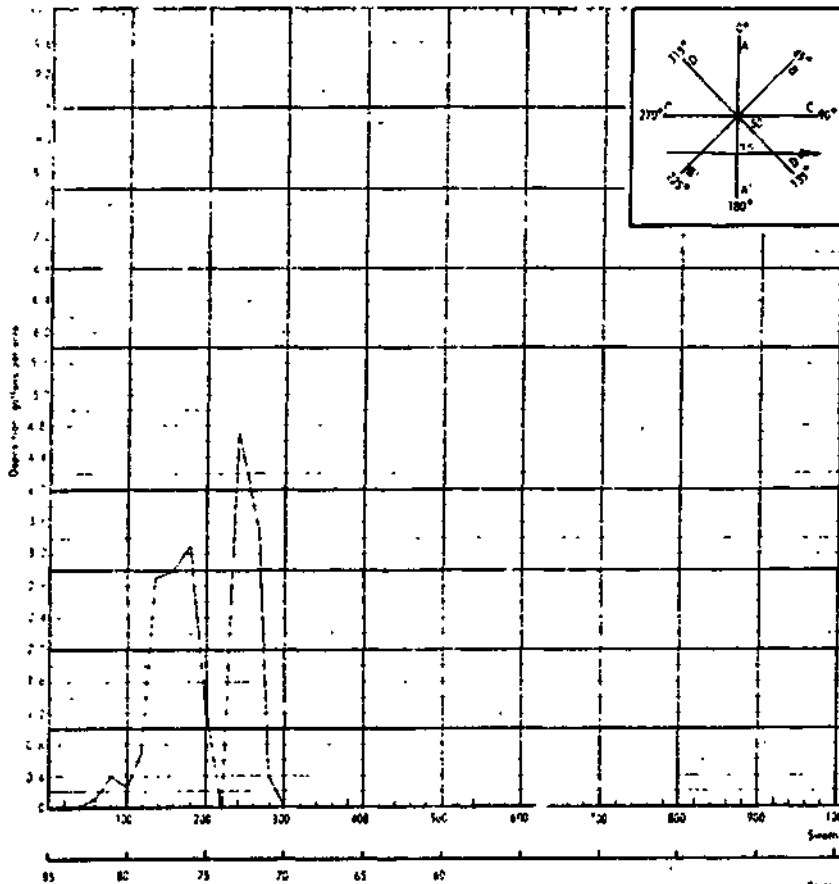
MASS DEPCSI

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 3 AIRSPEED: 75 Knots
 SAMPLE LINE: A ALTITUDE: 50 Feet
 TIME OF RELEASE: 0414 Hours AIRCRAFT COURSE: 090 Degrees
 DURATION: 12 Sec.

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 29.5



Date: 13 July 1963
 Flight #: 3
 Sample Line: A
 Type Aircraft: Eouled, 49 670
 Material Sprayed: Purin, 0.1% Dye
 Altitude: 50 Feet
 Altitude: 75 Feet
 Aircraft Course: 090 Degree
 Time of Release: 0410 Hours

Swath (feet)

Swath Number

MASS MEDIA: DIAMETER

DATE: 13 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 4PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: PurpleFLOW RATE: 69 GPMSYSTEM: 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(:mallest)
27	6	6300			
27	10	6200			
27	5	6100			
27	8	6000			
27	7	5900			

$$\text{MMD} = \frac{70.44 + 0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44 + 0.1431(6800)}{2.2} = 574.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(7600) = 1158.0 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

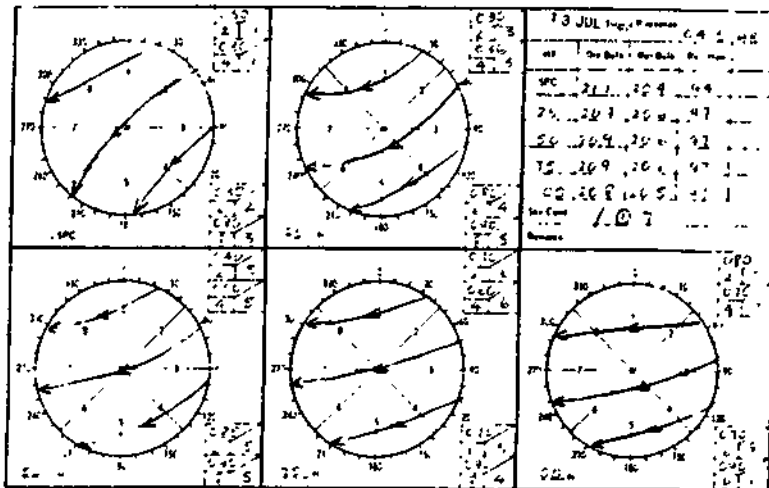
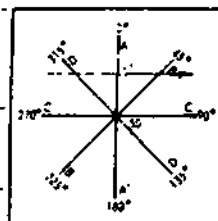
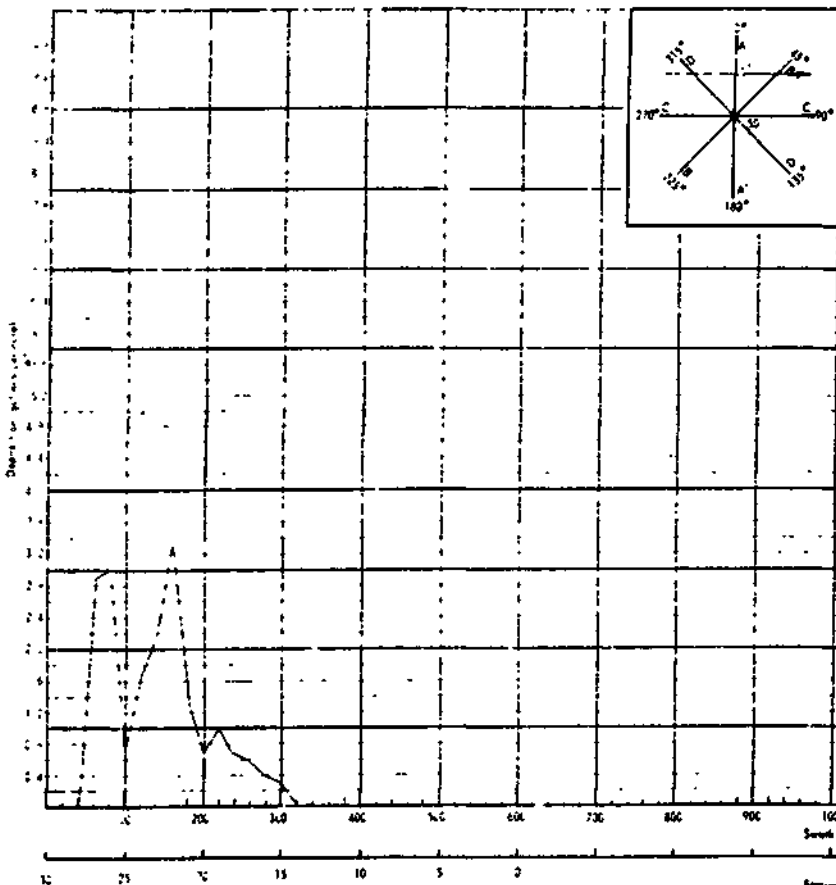
INITIALS: Purple FLOW RATE: 1.0 liters
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 4 AIRSPEED: 75 Knot
 SAMPLE LINE: A ALTITUDE: 5 ft
 TIME OF RELEASE: 0416 hours AIRCRAFT COURSE: 090
 DURATION: 11 Sec.

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 3.1
 27 2.2

Stations 28 - 100 Blank.

Total 12.2



Date : 13 July 1963
 Flight # : A
 Sample No : A
 Type Attempted : Impaled, 66 GPH
 Material Sprayed : Purple, 0.1 lye
 Altitude : 55 Feet
 Altitude : 75 Feet
 Aircraft Course : 090 Degree
 Time of Release : 0618 Hours

Sweep (feet)

Stress Number

MASS DEPOSIT

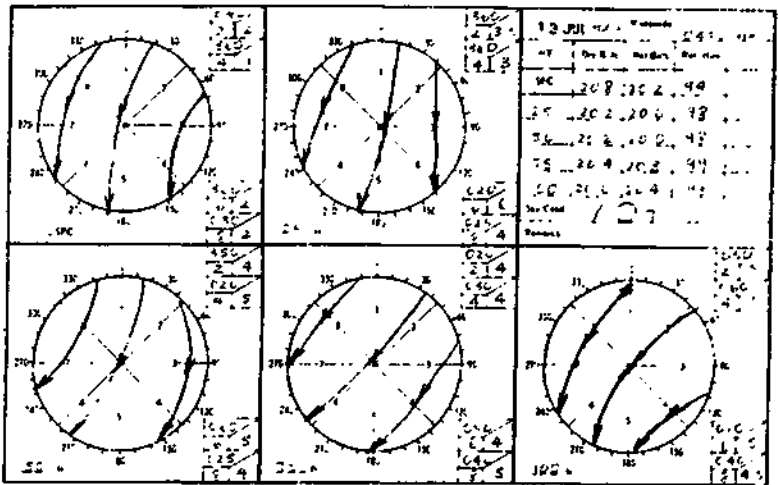
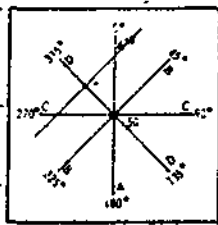
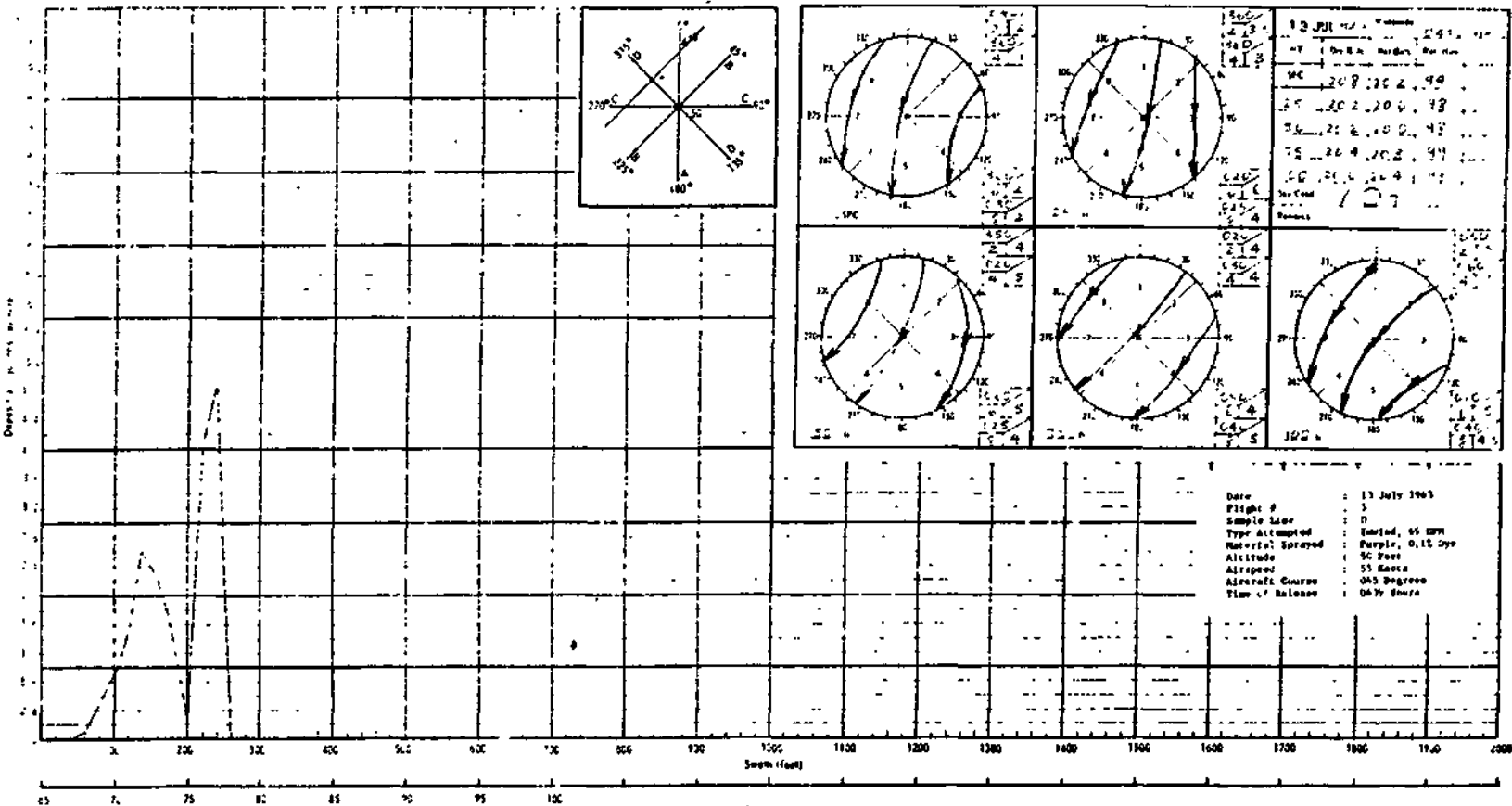
MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 5 AIRSPEED: 55 Knots
 SAMPLE LINE: D ALTITUDE: 50 Feet
 TIME OF RELEASE: 0439 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 13 Sec.

STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A.
Stations 1 - 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 1963
 Flight # : 5
 Sample Size : 0
 Type Attempted : Umbred, 65 MPH
 Material Sprayed : Purple, 0.12 Gps
 Altitude : 50 Feet
 Airspeed : 55 Knots
 Aircraft Course : 045 Degree
 Time of Release : 06:30 Hours

Swath (feet)

Swath Number

MASS MEDIAN DIAMETER

DATE: 13 July 1953 CONVERSION FACTOR: 2.2
 FLIGHT #: 6 TAPER: 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	10. (smallest)
22	5	6500			
22	10	6400			
23	5	6300			
25	8	6200			
24	7	6100			
25	11	6000			

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

$$\text{Max. Sph. Dia.} = \frac{70.4410.1431(\text{Max Spot})}{2.2} = \frac{70.4410.1431(8800)}{2.2} = 1329.7 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 54 GM.
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 6 AIRSPEED: 55 Knots
 SAMPLE LINE: D ALTITUDE: 50 Feet
 TIME OF RELEASE: 0441 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 16 Sec.

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 1.0
 26 7.8
 27 1.2
 Stations 28 - 100 Blank

Total 22.2

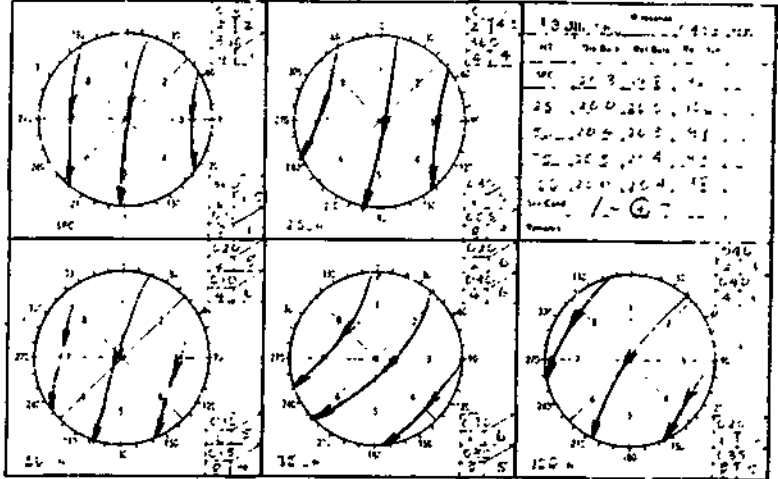
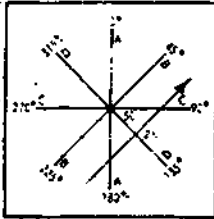
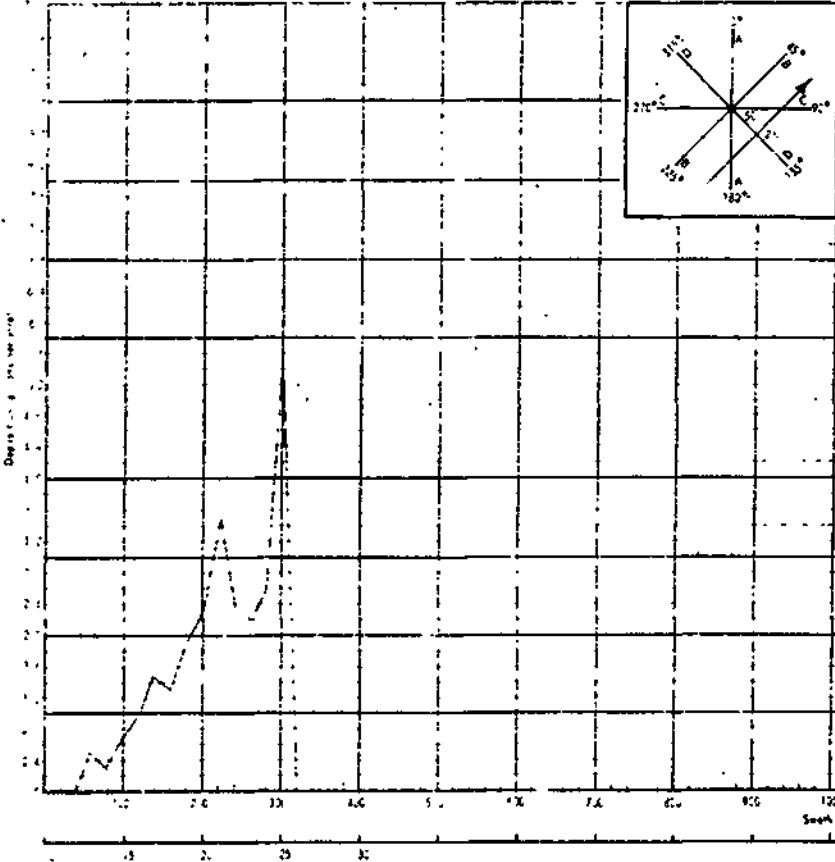
MASS DEPOSITMATERIAL: PurpleFLOW RATE: 69 GPMDATE: 13 July 1963SYSTEM: HIDALFLIGHT #: 7AIRSPEED: 55 KnotsSAMPLE LINE: DALTITUDE: 75 FeetTIME OF RELEASE: 0500 HoursAIRCRAFT COURSE: 045 DegreesDURATION: 12 Sec.

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 : 23 July 1961
 Flight # : 1
 Sample Line : D
 Type Aircraft : Boeing, ex 424
 Material Spread : Purple, with dye
 Altitude : 15 Feet
 Airspeed : 55 Knots
 Aircraft Course : 145 Degrees
 Time of Release : 0300 Hours

Swath Hours

Swath Number

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 8 AIRSPEED: 55 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0502 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 15 Sec.

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

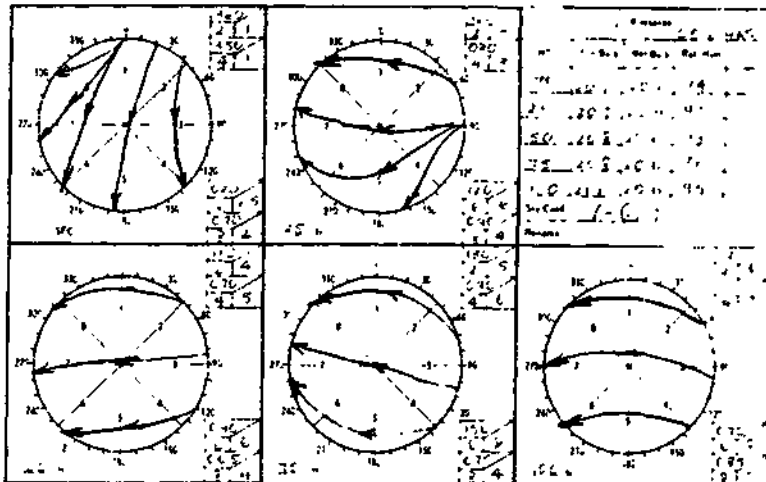
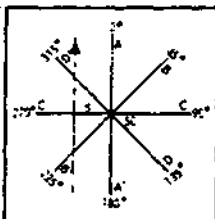
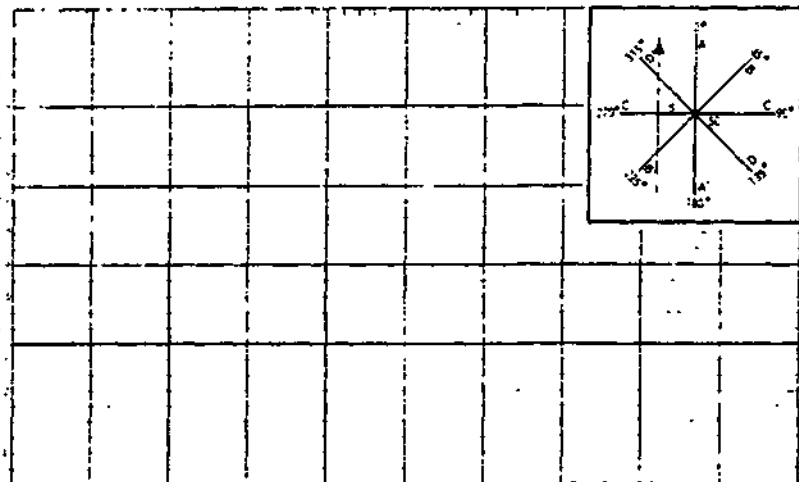
MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 9 AIRSPEED: 75 Knots
 SAMPLE LINE: C ALTITUDE: 75 Feet
 TIME OF RELEASE: 0520 hours AIRCRAFT COURSE: 360 Degrees
 DURATION: 13 Sec.

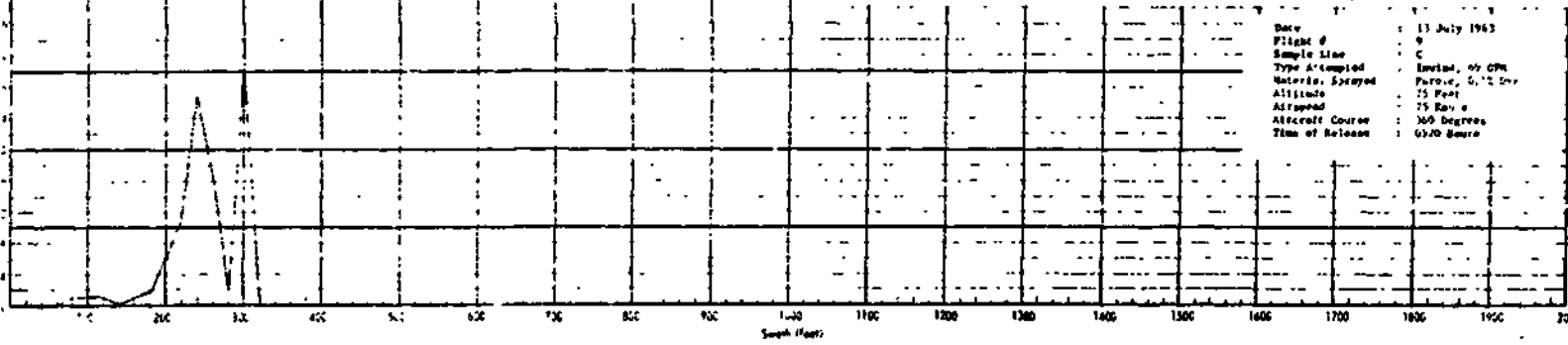
<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
Stations 1 - 74	Blank			75	3.0		
				76	0.2		
				77	1.5		
				78	2.7		
				79	1.1		
				80	0.6		
				81	0.2		
				82	0.1		
				83	0.0		
				84	0.1		
				85	0.1		
				86	0.1		
				87	0.0		
				88	0.0		
				Stations 89 - 100	Blank		

Total 1.7

Diameter of Sample Area



Date : 13 July 1963
 Flight # : 9
 Sample Line : C
 Type of Sample : Insects, 60 GPM
 Material Sprayed : Parathion, 0.1% Sol
 Altitude : 25 Feet
 Airspeed : 75 Kts
 Aircraft Course : 360 Degrees
 Time of Release : 0920 Hours



Source Number

Source Number

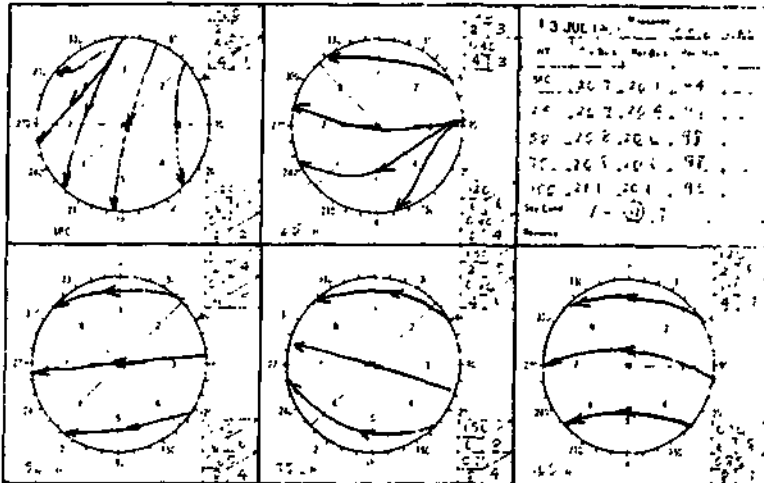
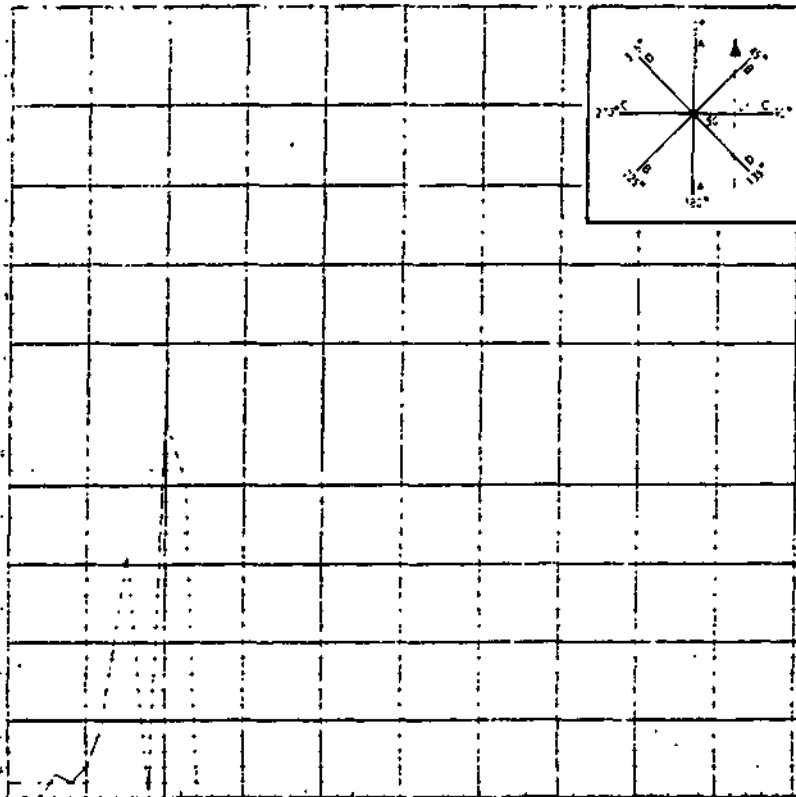
MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 10 AIRSPEED: 75 Knots
 SAMPLE LINE: C ALTITUDE: 75 Feet
 TIME OF RELEASE: 0522 Hours AIRCRAFT COURSE: 360 Degrees
 DURATION: 15 Sec.

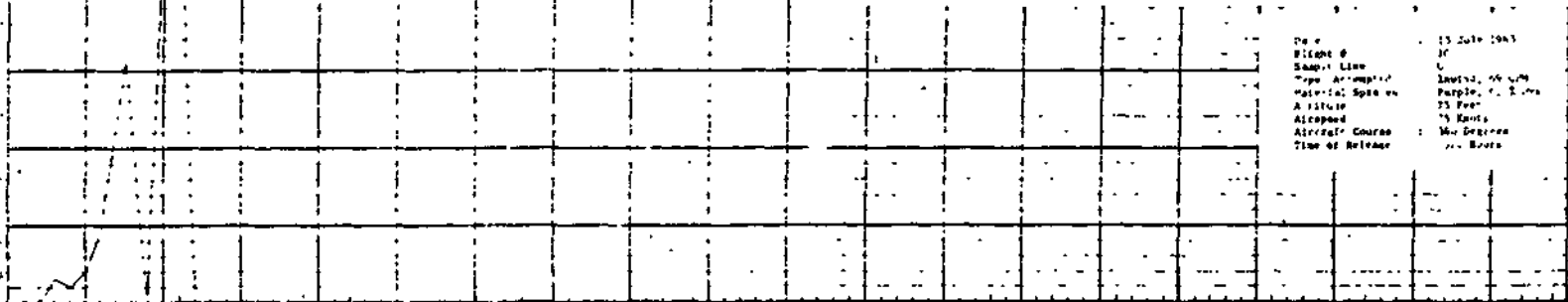
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23	Blank	24	4.0				
		25	4.8				
		26	0.1				
		27	3.1				
		28	2.2				
		29	0.9				
		30	0.4				
		31	0.2				
		32	0.3				
		33	0.0				
		34	0.0				
		35	0.0				
		36	0.0				
		Stations 37 - 100	Blank				

Total 16.0

Sheet 1 of 3



13 JUL 1963
 WT 2.42
 47 B
 MC 267, 261, 4
 16 267, 264, 9
 SP 268, 264, 98
 TC 268, 264, 98
 MC 261, 264, 98
 Release 1 - 20.7



Date 13 July 1963
 Flight # 10
 Sample Line C
 Type Air sampler Inverted, 66 cm
 Material Spinel Purple, 7.5 cm
 Altitude 25 Feet
 Airflow 1/4 Units
 Airflow Course 1 No Degree
 Time of Release 20.7000

South Feet

Sample Number

25 27

MASS MEDIAN DIAMETER

DATE: 13 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 11PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: PurpleFLOW RATE: 6.1 GPMSYSTEM: Hiical

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			

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

$$\text{Max. Sph. Dia.} = 70.44 \times 0.1431 (\text{Max Spot}) = 70.44 \times 0.1431 (7100) = 1086.5 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 48 \text{ Microns}$$

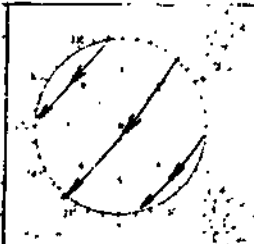
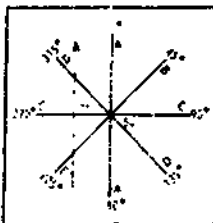
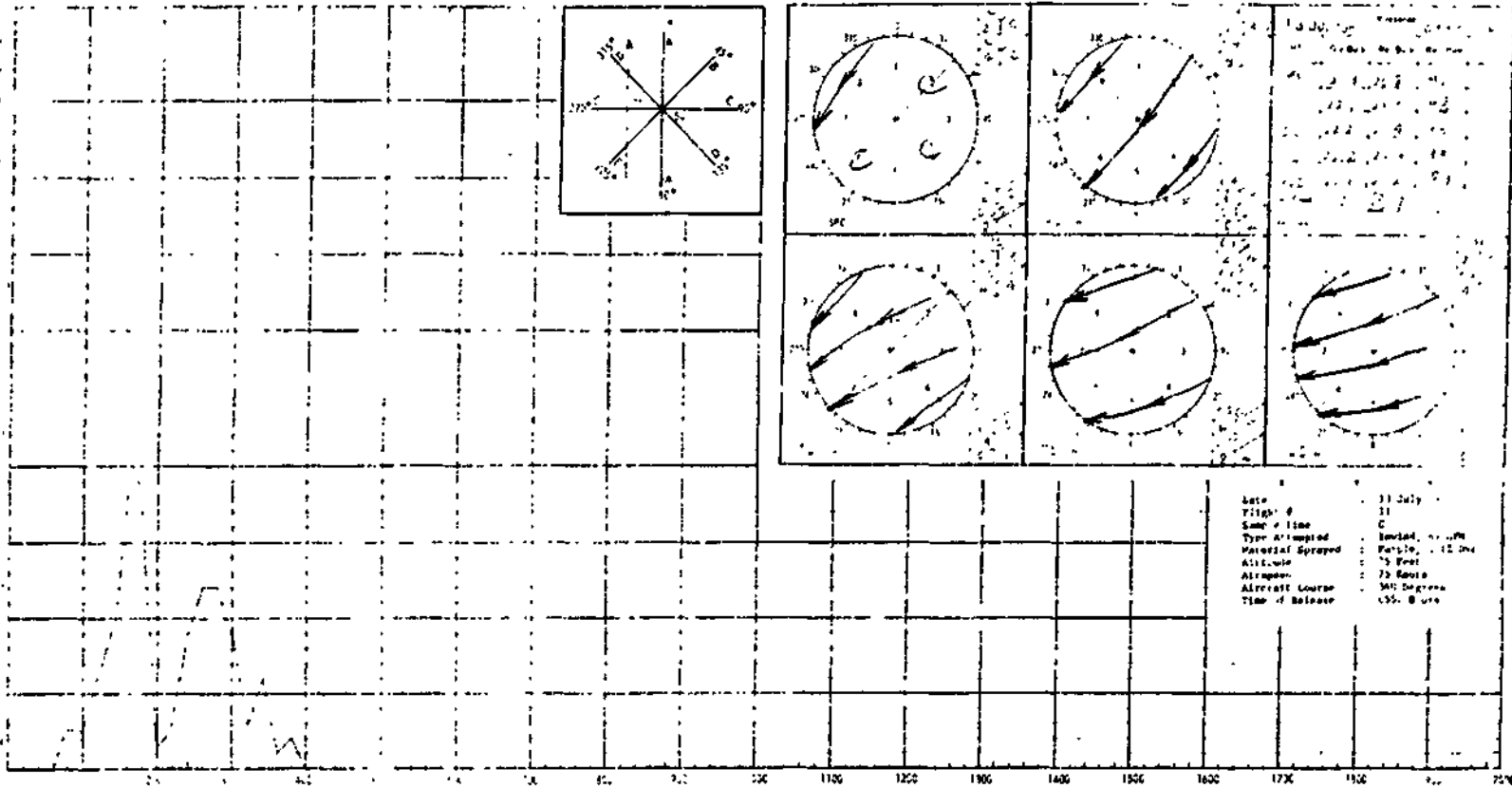
MASS DEPOSITMATERIAL: PurpleFLOW RATE: 60 CPMDATE: 13 July 1963SYSTEM: HYDALFLIGHT # 11AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0552 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 15 Sec.

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



100
 200
 300
 400
 500
 600
 700
 800
 900
 1000
 1100
 1200
 1300
 1400
 1500
 1600
 1700
 1800
 1900
 2000
 2100
 2200



Date : 31 July
 Flight # : 31
 Size of line : C
 Type of spread : Limited, no wind
 Material sprayed : Particle, 1/2 inch
 Altitude : 75 Feet
 Airspeed : 75 Knots
 Aircraft Course : 340 Degrees
 Time of Release : 1:55. 0 hrs

So = 100ft

Drop Height

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 69 GPMDATE: 3 July 1963SYSTEM: WIDALFLIGHT #: 12AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0555 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 11 Sec.

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

MASS MEDIAN DIAMETER

DATE: 13 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 13PAPER: Kromekote, whiteSAMPLE LINE: DMATERIAL: PurpleFLOW RATE: 6, GPMSYSTEM: 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			

$$\text{MMD} = \frac{70.44 + 0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44 + 0.1431(6200)}{2.2} = 435.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(8400) = 1202.0 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 13 AIRSPEED: 55 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 015 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 - 75	Blank			74	4.0		
				75	1.8		
				76	1.0		
				77	2.2		
				78	4.0		
				79	1.0		
				80	1.0		
				81	0.1		
				82	0.1		
				83	0.5		
				84	0.5		
				85	0.5		
				86	0.2		
				Stations 87 -	:		
					Blank		

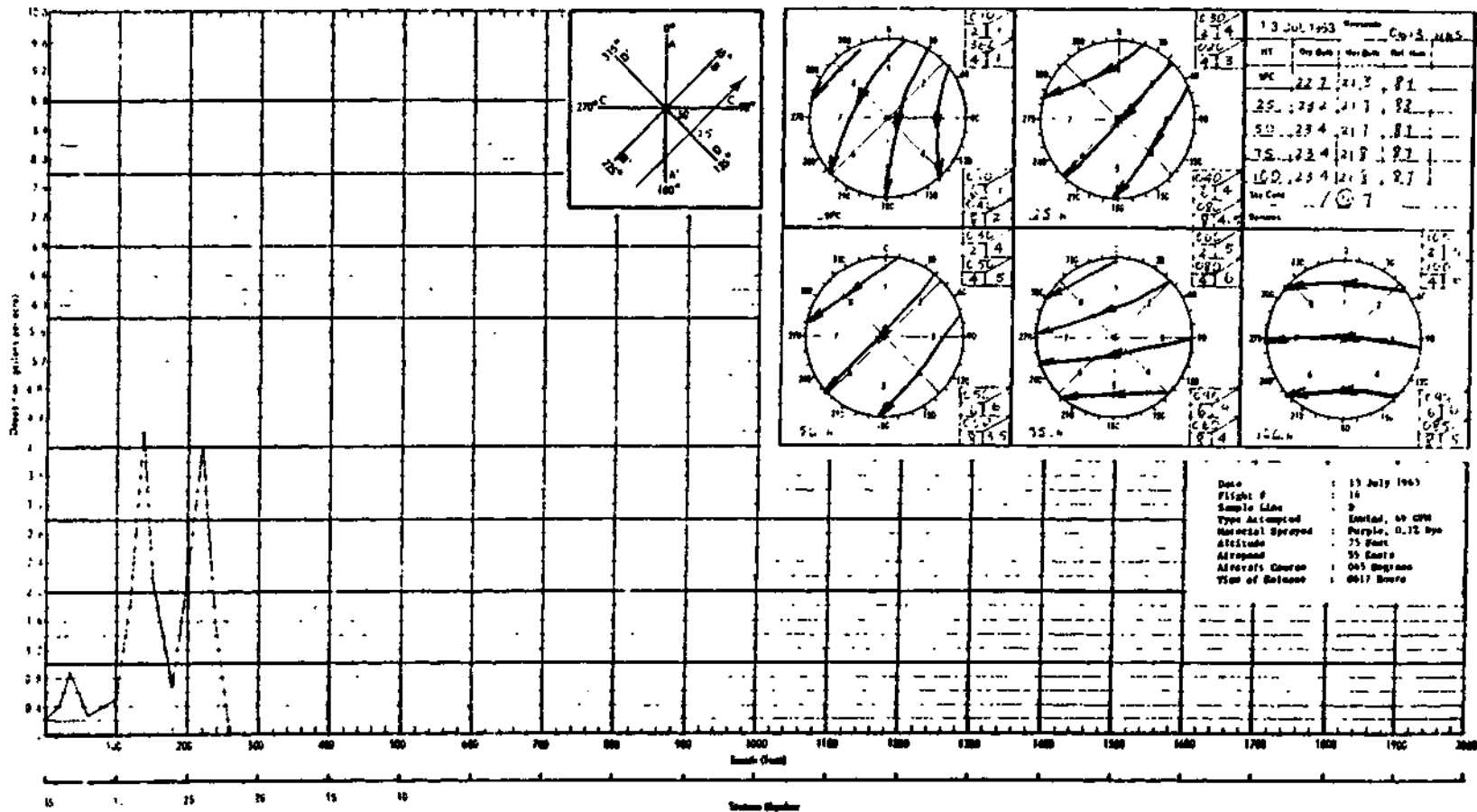
Total 26.0

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 14 AIRSPEED: 55 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0617 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 - 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



MASS DEPOSIT

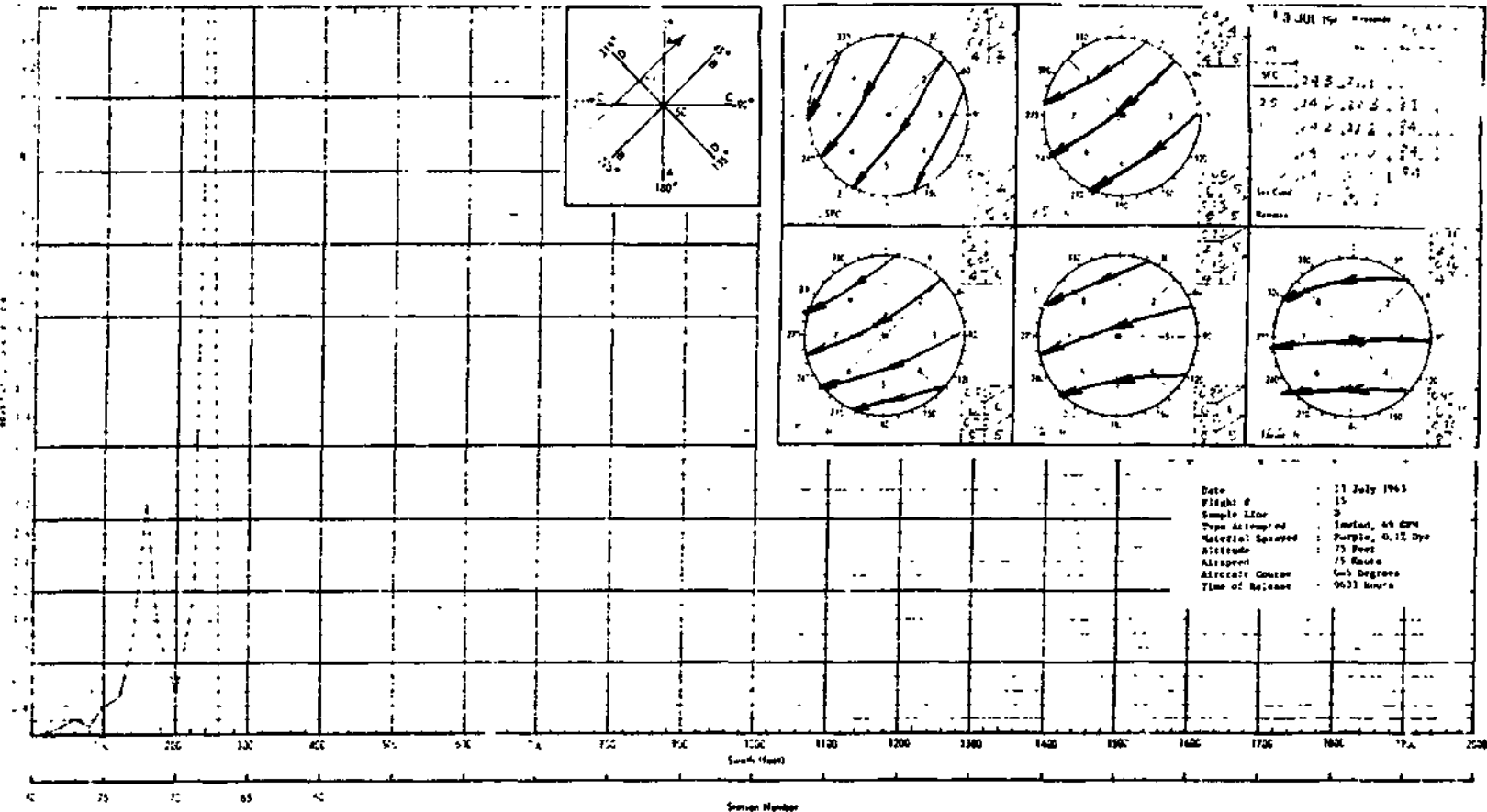
MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 15 AIRSPEED: 75 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0833 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 15 Sec.

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

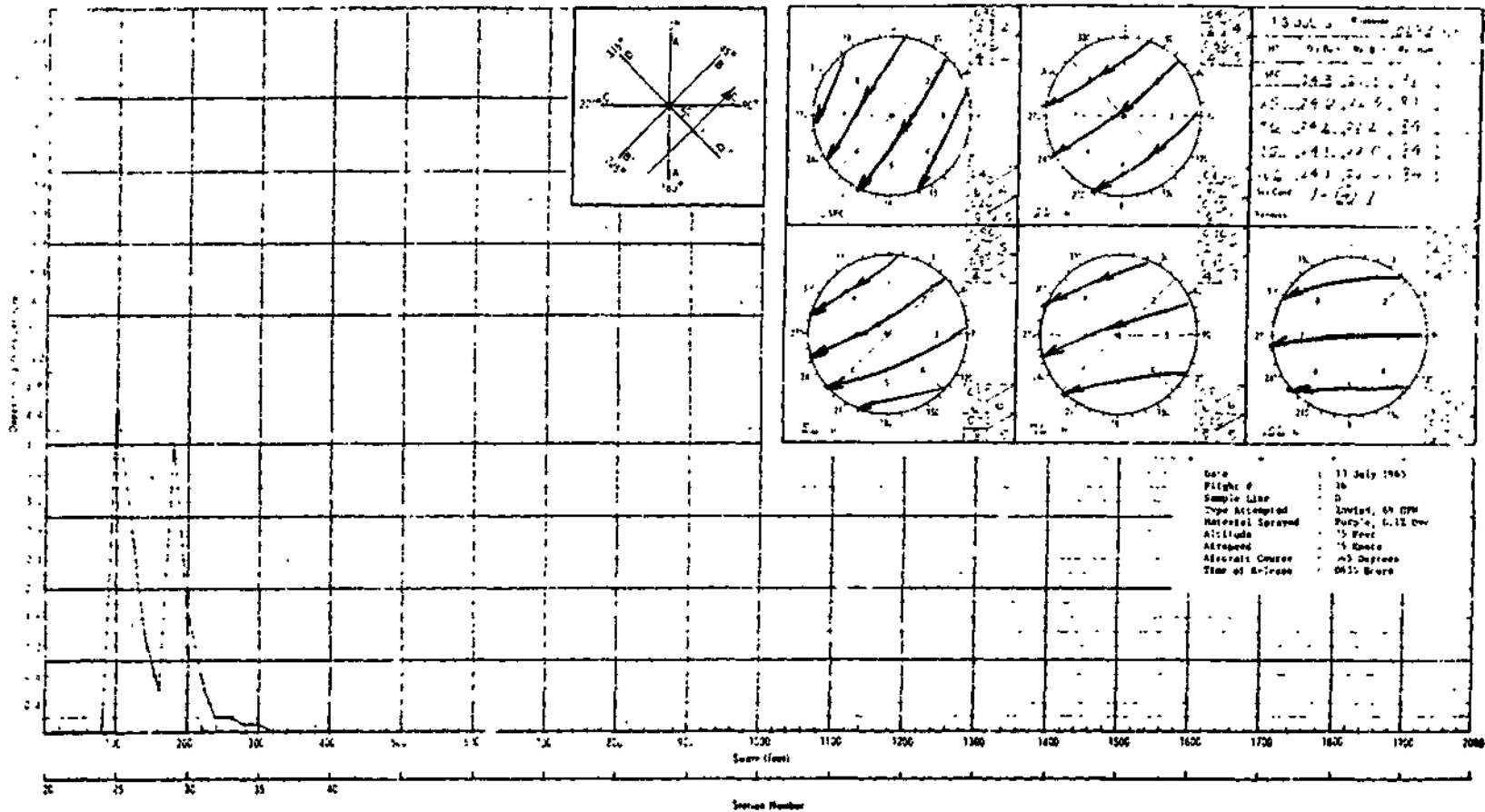


MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 15 AIRSPEED: 75 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0635 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 17 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	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



MASS MEDIAN DIAMETER

DATE: 13 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 17PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: PurpleFLOW RATE: 6.9 GPMSYSTEM: WIDAL

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			

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

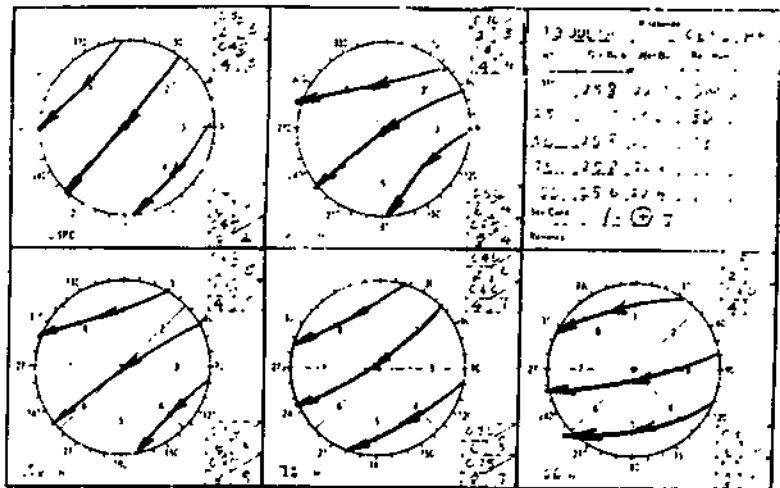
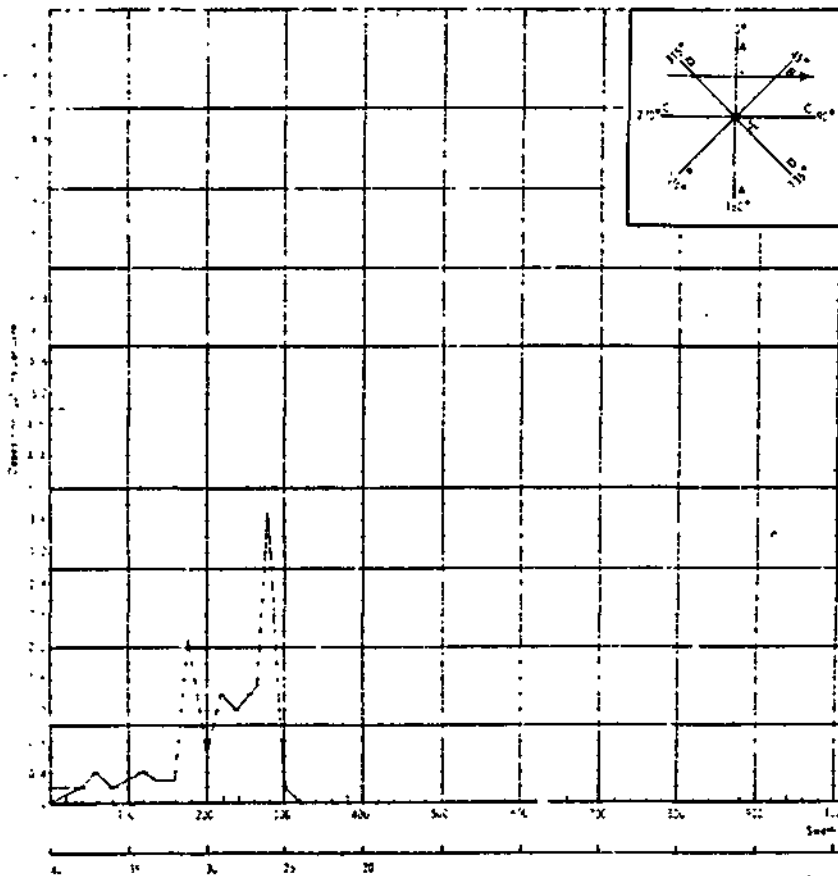
$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(7500) = 1143.7 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 CPM
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 17 AIRSPEED: 75 Knots
 SAMPLE LINE: A ALTITUDE: 100 Feet
 TIME OF RELEASE: 0652 hours AIRCRAFT COURSE: 090 Degrees
 DURATION: 14 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	0.2				
		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				



13 JUL 1961
 17C
 17E
 17G
 17I
 17K
 17M

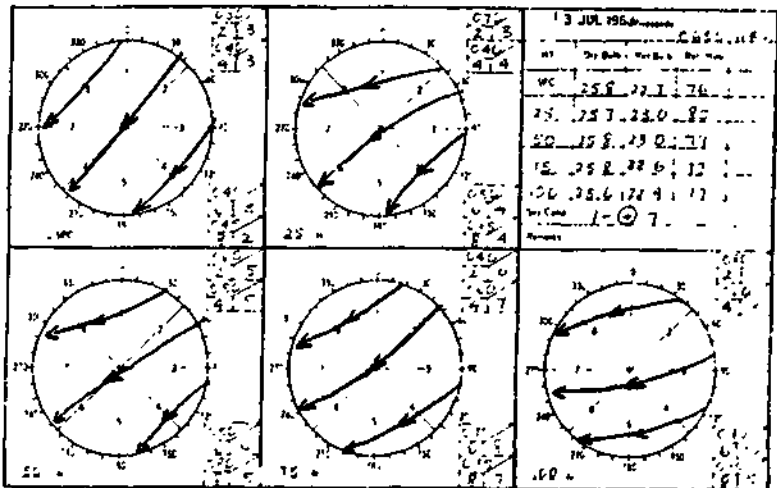
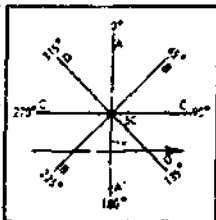
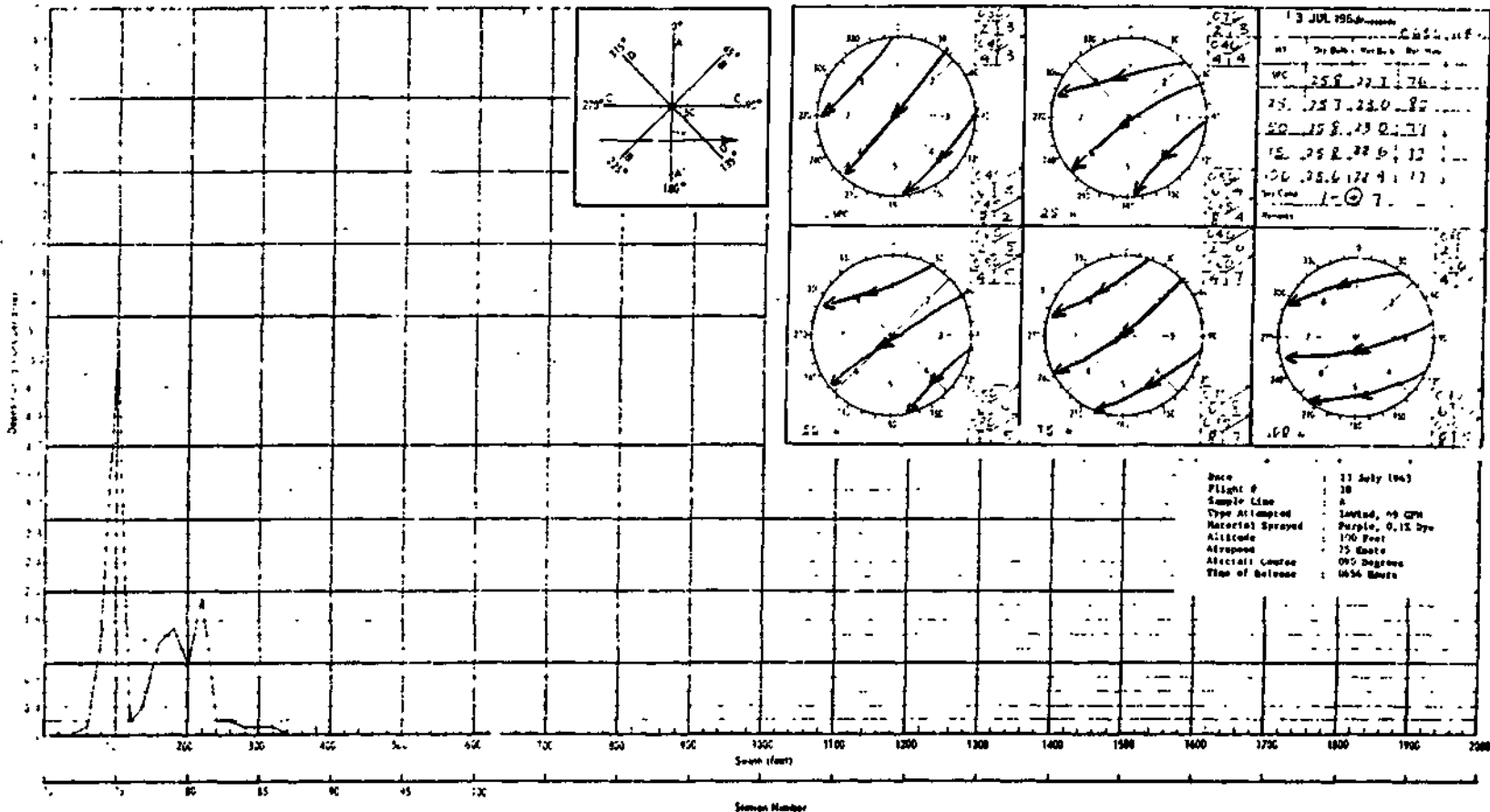
Date	13 July 1961
Flight #	17
Sample Line	A
Type Aircraft	Lowland, CV CPM
Material Spayed	Purple, 0.12 Dye
Altitude	100 Feet
Speed	75 Knts
Aircraft Course	090 Degree
Time of Day	0652 @ UTC

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 69 GPK
 DATE: 13 July 1963 SYSTEM: HIDAL
 FLIGHT #: 18 AIRSPEED: 75 Knots
 SAMPLE LINE: A ALTITUDE: 100 Feet
 TIME OF RELEASE: 0654 Hour AIRCRAFT COURSE: 090 Degrees
 DURATION: 18 Sec.

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



Date: 23 July 1964
 Flight #: 18
 Sample Line: A
 Type of Sample: Inlet, 90 GPM
 Material Sprayed: Purple, 0.12 Dye
 Altitude: 150 Feet
 Altitude: 15 Feet
 Altitude Course: 090 Degree
 Time of Release: 0654 Hours

Station Number

H-34/HLDAL GROUND FLOW & FLIGHT DATA

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

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 1963CONVERSION FACTOR: 2.2SLIGHT #: 1PAPER: Kromekote, whiteSAMPLE LINE: BMATERIAL: PurpleFLOW RATE: 56 CPMSYSTEM: WIDAL

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			

$$\text{CMD} = \frac{70.44 + 0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44 + 0.1431(6400)}{2.2} = 648.3 \text{ Microns}$$

$$\text{Max. Spn. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(6400) = 986.3 \text{ Microns}$$

$$\text{Min. Spn. Dia.} = 63 \text{ Microns}$$

NUSS DEPOSIT

MATERIAL: P. 101 FLOW RATE: 16 CM
 DATE: 15 July 1963 SYSTEM: HYDA
 FLIGHT #: 1 AIRSPEED: 25 Knot
 SAMPLE LINE B ALTITUDE: 75 Feet
 TIME OF RELEASE: 0410 Hours AIRCRAFT COURSE 315 Degrees
 DURATION: ---

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	1.3
						73	1.6
						74	1.5
						75	0.1
						76	0.4
						77	1.4
						78	1.0
						79	0.6
						80	0.5
						81	0.3
						82	0.2
						83	0.1
						84	0.1
						85	0.1
						Stations 86 - 100	10.0

Total 10.6

MASS DEPOSITION

MATERIAL: Purple FLOW RATE: 25 LPM
 DATE: 16 July 1963 SYSTEM: H'D&L
 FLIGHT #: 2 AIRSPEED: 50 KNOTS
 SAMPLE LINE: B ALTITUDE: 75 FEET
 TIME OF RELEASE: 0412 Hours AIRCRAFT COURSE: 315 Degrees
 DURATION: ---

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20	Blank	21	0.4				
		22	1.3				
		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				

7 Recovery - 56.8

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: 55 GPM
 SYSTEM: HIDAL
 AIRSPEED: 75 Kts.
 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 1963CONVERSION FACTOR: 2.2FLIGHT #: 4PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: PurpleFLOW RATE: 56 GPMSYSTEM: 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			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(4300) = 685.8 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 56 GPMDATE: 16 July 1963SYSTEM: HYDALFLIGHT #: 4AIRSPEED: 75 KnotsSAMPLE LINE: CALTITUDE: 75 FeetTIME OF RELEASE: 0436 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 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 1963CONVERSION FACTOR: 2.2FLIGHT #: 5PAPER: Kromekote, whiteSAMPLE LINE: CMATERIAL: PurpleFLOW RATE: 56 GPMSYSTEM: IIDAL

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			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(7000) = 1072.1 \text{ Microns}$$

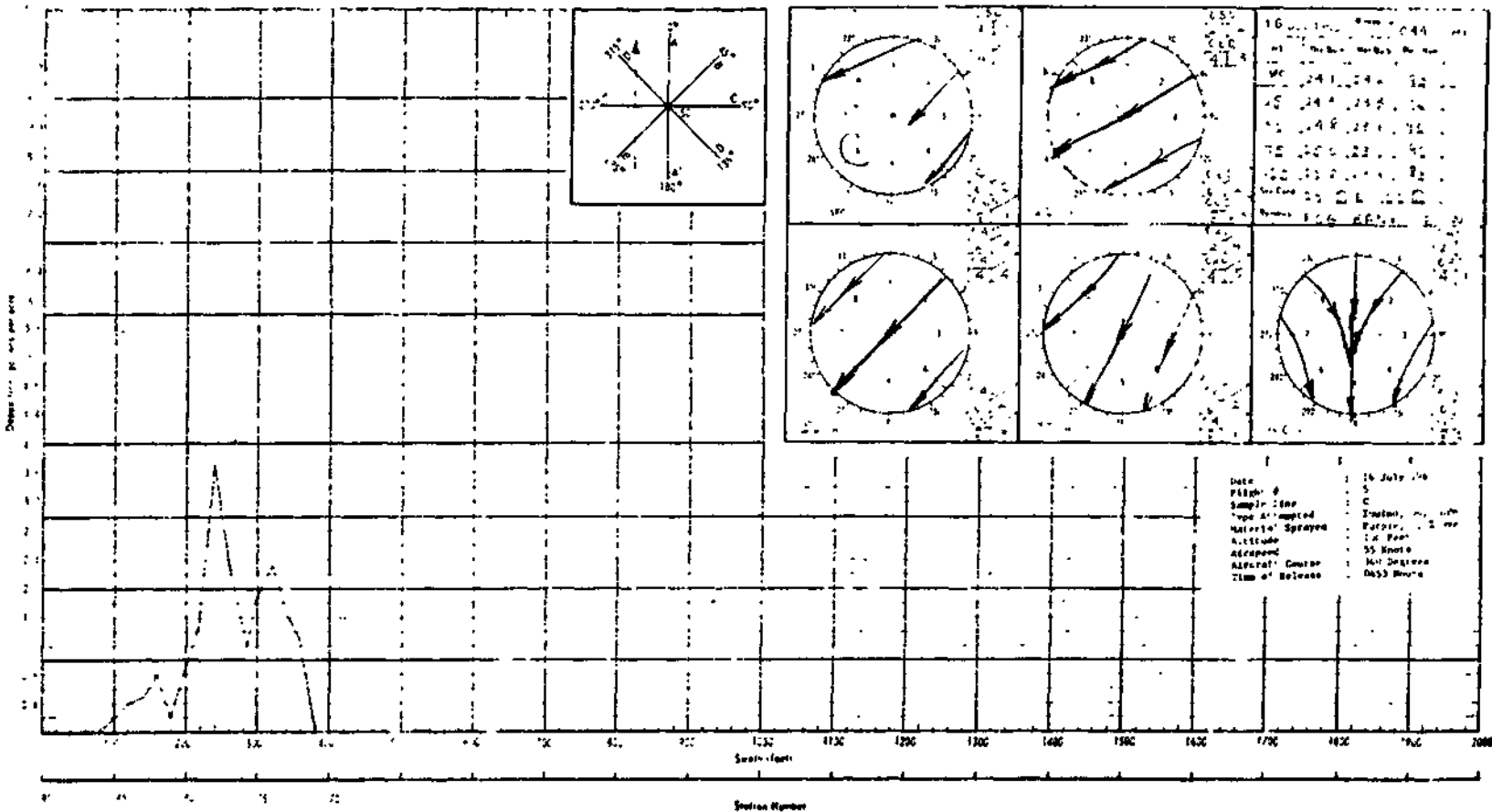
$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

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

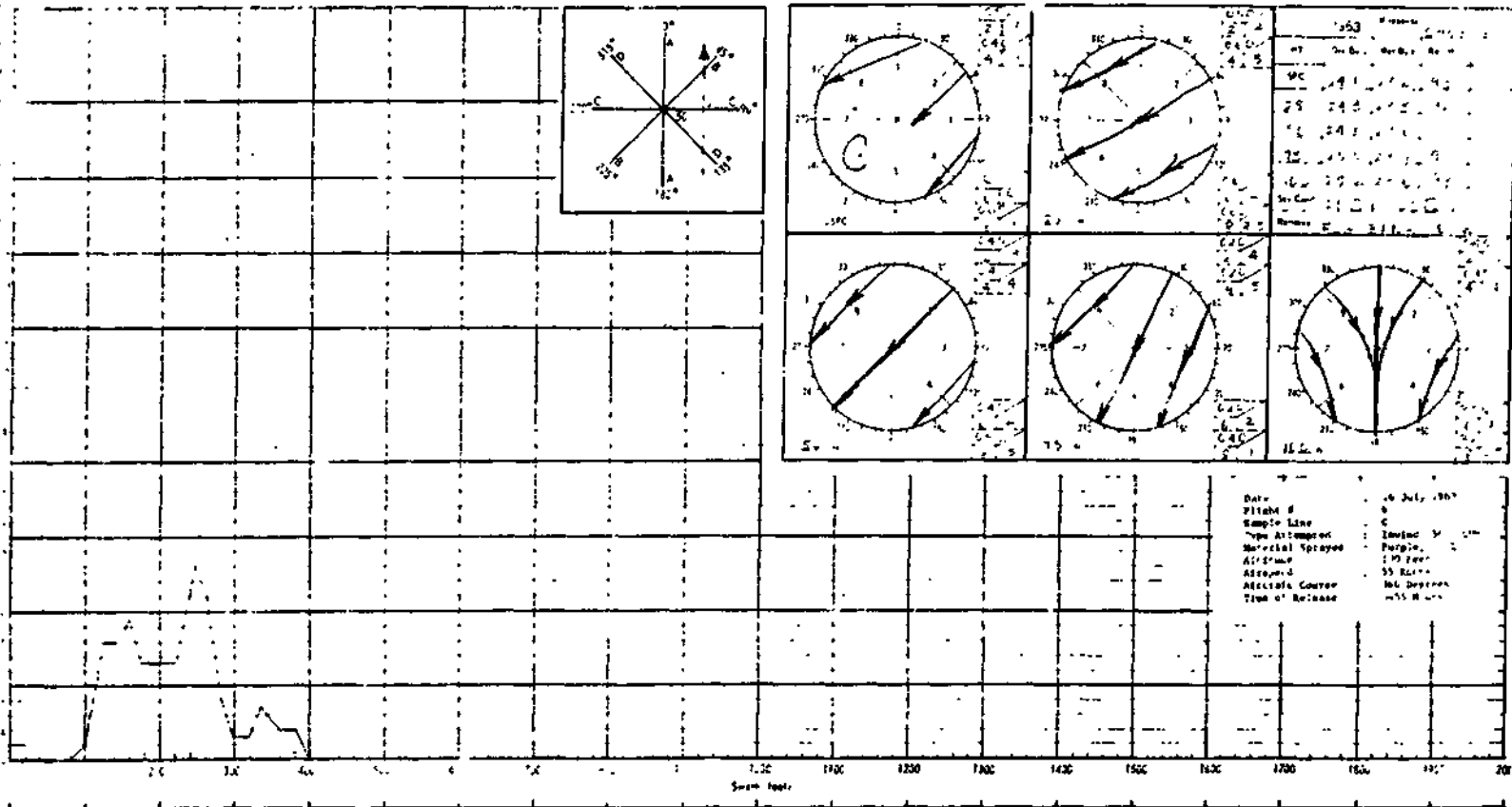


Station Number

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 56 CPMDATE: 16 July 1963SYSTEM: HIDALFLIGHT #: 6AIRSPEED: 55 KnotsSAMPLE LINE: CALTITUDE: 100 FeetTIME OF RELEASE: 0455 HoursAIRCRAFT COURSE: 360 DegreesDURATION: 13 Sec.

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



Station Number

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 56 GPM
 DATE: 16 July 1963 SYSTEM: HIDAL
 FLIGHT #: 7 AIRSPEED: 55 Knots
 SAMPLE LINE: D AIRCRAFT COURSE: 045 Degrees
 TIME OF RELEASE: 0513 Hours ALTITUDE: 50 Feet
 DURATION: 16 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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 1963CONVERSION FACTOR: 2.2FLIGHT #: 8PAPER: Kromekote, whiteSAMPLE LINE: DMATERIAL: PurpleFLOW RATE: 56 GPMSYSTEM: 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			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(6100) = 943.4 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

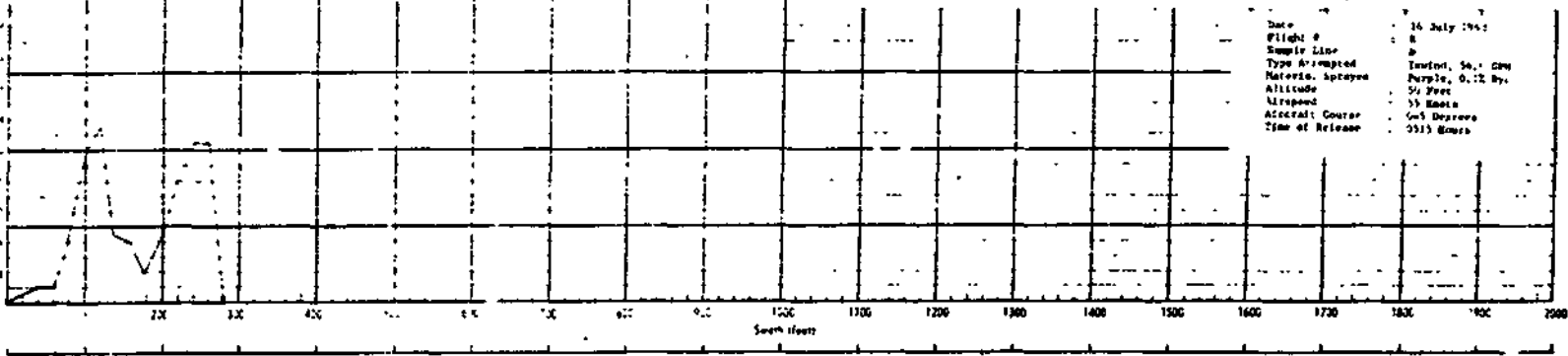
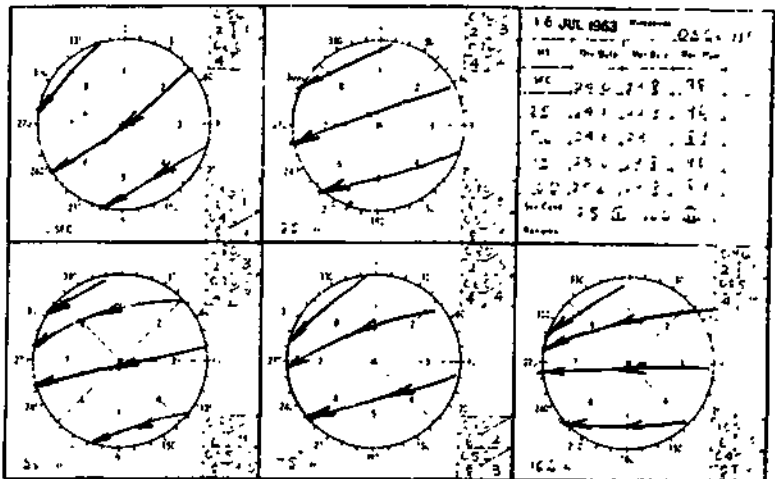
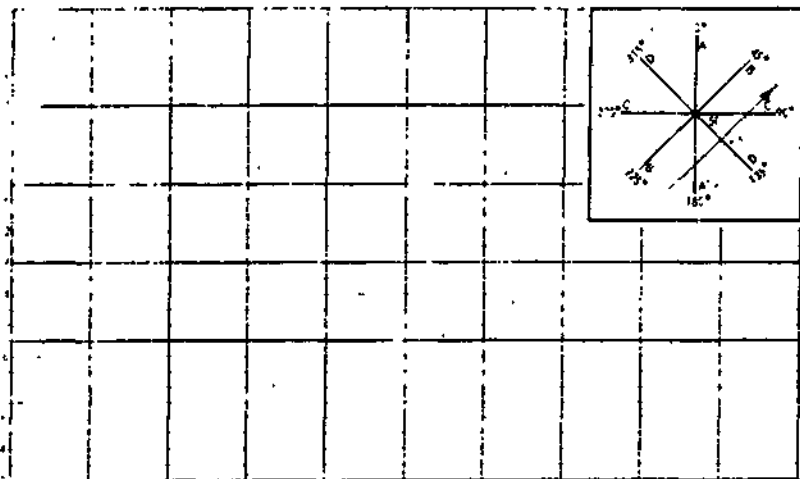
MATERIAL: Purple FLOW RATE: 56 GPM
 DATE: 16 July 1963 SYSTEM: HIDAL
 FLIGHT #: 8 AIRSPEED: 55 Knots
 SAMPLE LINE: D ALTITUDE: 50 Feet
 TIME OF RELEASE: 0513 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 12 Sec.

<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>	<u>STATION</u>	<u>G.P.A.</u>
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 - 55.7

Total 14.4

Figure 1 - of two per cent



Section Number

MASS MEDIAN DIAMETER

DATE: 16 July 1963CONVERSION FACTOR: 2.2FLIGHT #: 9PAPER: Kromekote, whiteSAMPLE LINE: AMATERIAL: PurpleFLOW RATE: 56 GPMSYSTEM: IIDAL

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			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(5200) = 814.6 \text{ Microns}$$

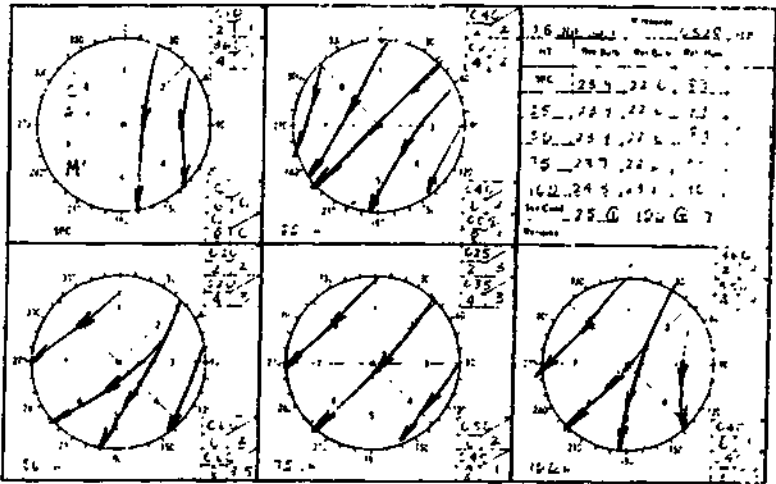
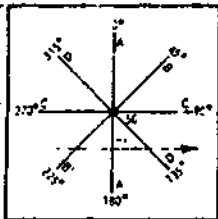
$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Purple FLOW RATE 50 CFM
 DATE: 16 July 1963 SYSTEM: REDAL
 FLIGHT #: 9 AIRSPEED: 75 KNOTS
 SAMPLE LINE: A ALTITUDE: 50 FEET
 TIME OF RELEASE: 0534 Hours AIRCRAFT COURSE: 090 Degrees
 DURATION: 09 Sec.

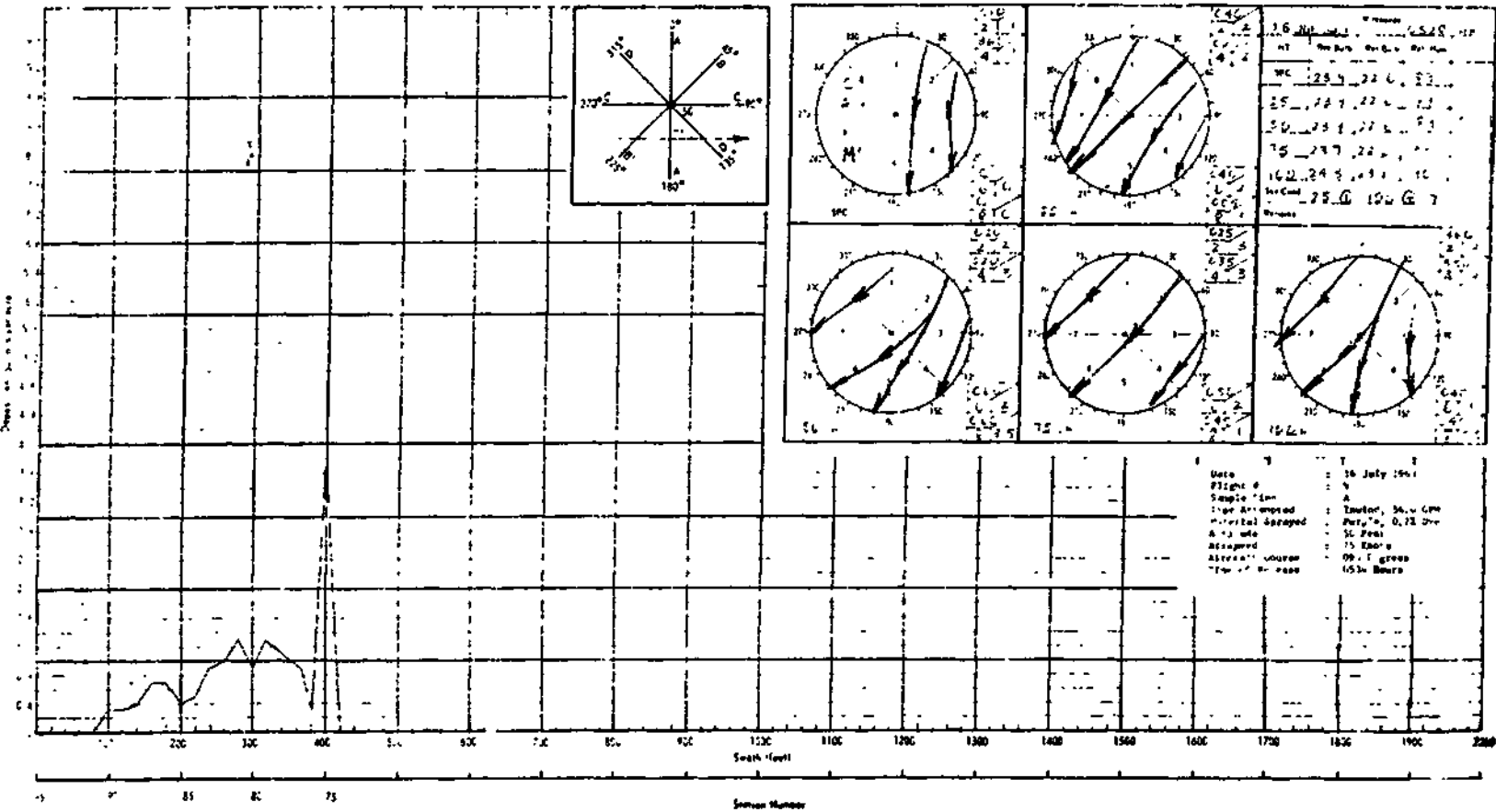
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 74	Blank					75	5.7
						76	0.3
						77	0.4
						78	0.3
						79	1.3
						80	0.3
						81	1.3
						82	1.0
						83	0.9
						84	0.3
						85	0.3
						86	0.3
						87	0.3
						88	0.4
						89	0.3
						90	0.3
						Stations 91 - 100	Blank

Total 14.7



26 July 1961
 11
 WC 25.5 22.6 23.0
 25.7 22.7 23.0
 25.0 22.9 22.8 23.0
 75 22.7 22.8
 102 22.9 22.8 23.0
 125 22.6 19.0 22.7
 150 22.6 19.0 22.7

Date : 16 July 1961
 Flight # : 4
 Sample # : 4
 Type of sensor : Taylor, 36.0 cm
 Vertical spacing : 100, 0.12 cm
 A-1 site : St Paul
 Assembled : 75 Eads
 Aircraft : 09.1 green
 Type of base : 153a Bora



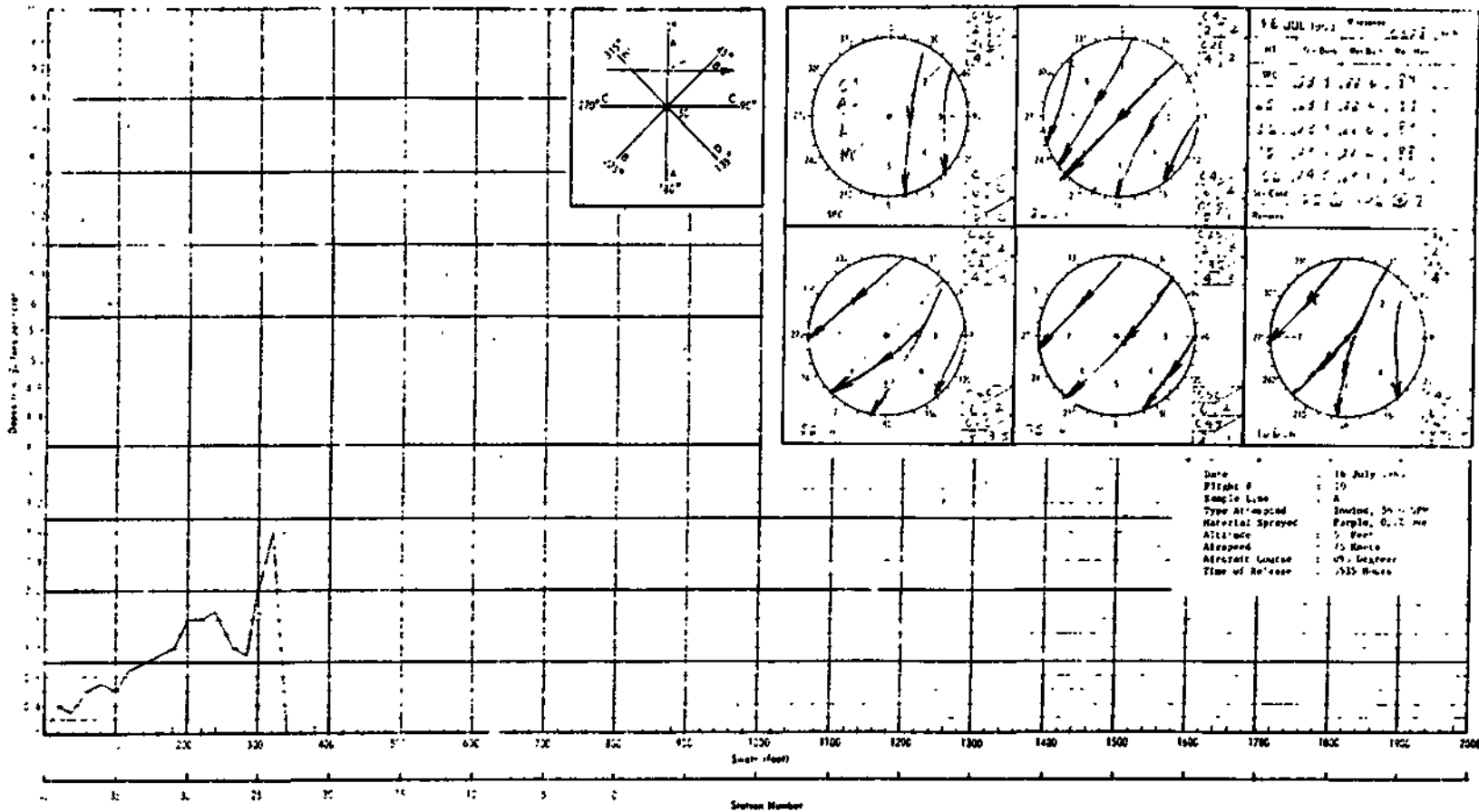
Swath Level

Swath Number

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 56 GPMDATE: 16 July 1963SYSTEM: HIDALFLIGHT #: 10AIRSPEED: 75 KnotsSAMPLE LINE: AALTITUDE: 50 FeetTIME OF RELEASE: 0535 HoursAIRCRAFT COURSE: 090 DegreesDURATION: 13 Sec.

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



MASS MEDIAN DIAMETER

DATE: 16 July 1963CONVERSION FACTOR 2.2FLIGHT #: 11PAPER: Kromekote, whiteSAMPLE LINE: DMATERIAL: PurpleFLOW RATE: 56 CPMSYSTEM: 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			

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

$$\text{Max. Sph. Dia.} = 70.44 + 0.1431(\text{Max Spot}) = 70.44 + 0.1431(5000) = 791.9 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = 63 \text{ Microns}$$

MASS DEPOSITMATERIAL: PurpleFLOW RATE: 56 GPMDATE: 16 July 1963SYSTEM: HIDALFLIGHT #: 11AIRSPEED: 75 KnotsSAMPLE LINE: DALTITUDE: 100 FeetTIME OF RELEASE: 0555 HoursAIRCRAFT COURSE: 045 DegreesDURATION: 12 Sec.

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

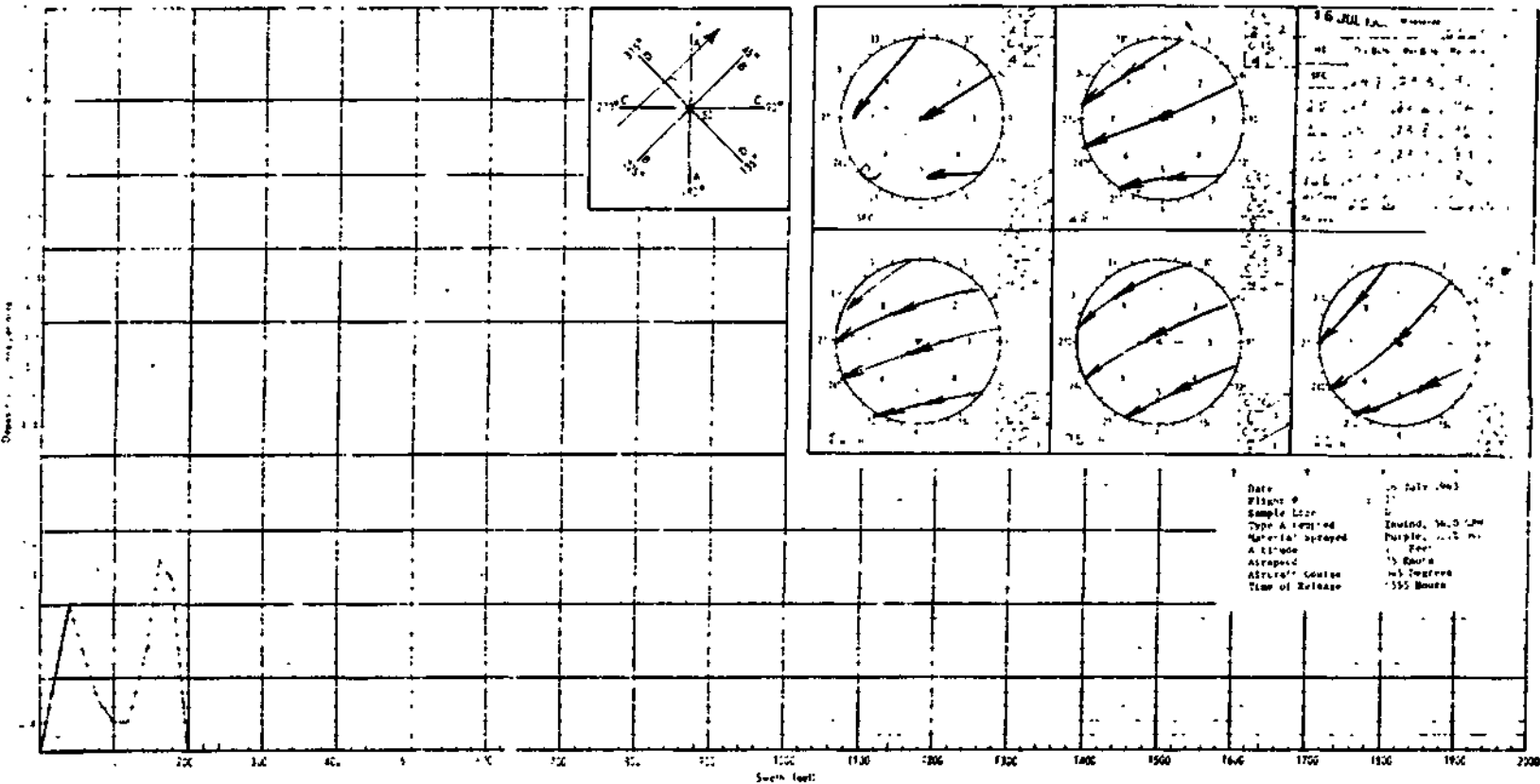
77 1.4

78 2.6

79 2.3

Stations 80 - 100 Blank

 % Recovery - 11.2
Total 12.4



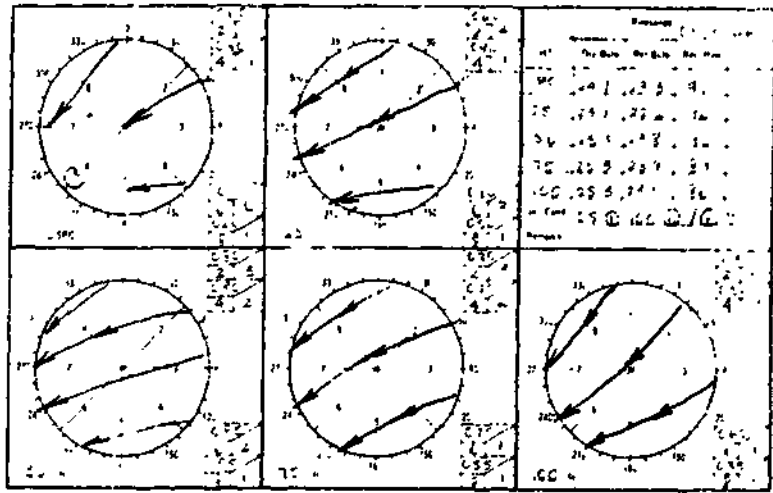
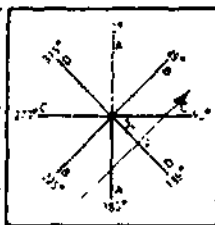
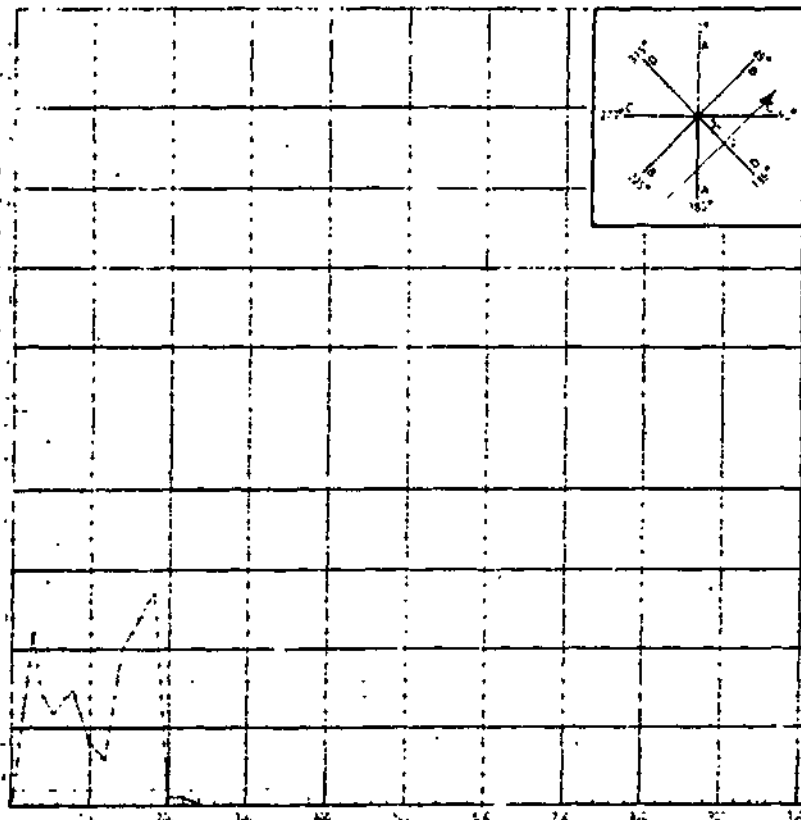
Station Number

MASS DEPOSIT

MATERIAL: Purple FLOW RATE: 56 GPM
 DATE: 16 July 1963 SYSTEM: HIDAL
 FLIGHT #: 12 AIRSPEED: 75 Knots
 SAMPLE LINE: D ALTITUDE: 100 Feet
 TIME OF RELEASE: 0558 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 12 Sec.

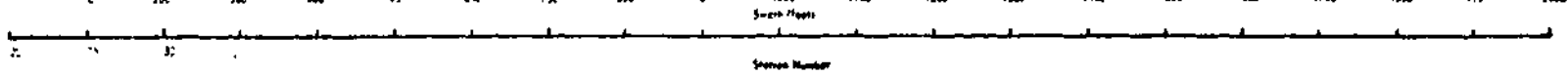
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1- 19	Blank	20	0.0				
		21	2.2				
		22	1.5				
		23	1.2				
		24	1.5				
		25	0.8				
		26	0.6				
		27	2.0				
		28	2.4				
		29	2.7				
		30	0.1				
		31	0.1				
		Stations 32 - 100	Blank				

Total 15.1



Summary				
Alt	Dr. Rate	Dr. Rate	Dr. Rate	Dr. Rate
10	1.0	1.0	1.0	1.0
20	1.0	1.0	1.0	1.0
30	1.0	1.0	1.0	1.0
40	1.0	1.0	1.0	1.0
50	1.0	1.0	1.0	1.0
60	1.0	1.0	1.0	1.0
70	1.0	1.0	1.0	1.0
80	1.0	1.0	1.0	1.0
90	1.0	1.0	1.0	1.0
100	1.0	1.0	1.0	1.0
110	1.0	1.0	1.0	1.0
120	1.0	1.0	1.0	1.0
130	1.0	1.0	1.0	1.0
140	1.0	1.0	1.0	1.0
150	1.0	1.0	1.0	1.0
160	1.0	1.0	1.0	1.0
170	1.0	1.0	1.0	1.0
180	1.0	1.0	1.0	1.0
190	1.0	1.0	1.0	1.0
200	1.0	1.0	1.0	1.0

Date : 16 July 1941
 Flight # : 22
 Sample size : 3
 Type Aircraft : C-47
 Release Altitude : 10000 ft
 Altitude : 10000 ft
 Altitude : 10000 ft
 Aircraft Group : 1st Bomb
 Time of Release : 1558 Hrs



MASS DEPOSITION

MATERIAL: Purple FLOW RATE: 56 CFM
 DATE: 16 July 1963 SYSTEM: HIDAL
 FLIGHT #: 13 AIRSPEED: 75 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0615 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 8 Sec.

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 Knts
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0617 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 9 Sec.

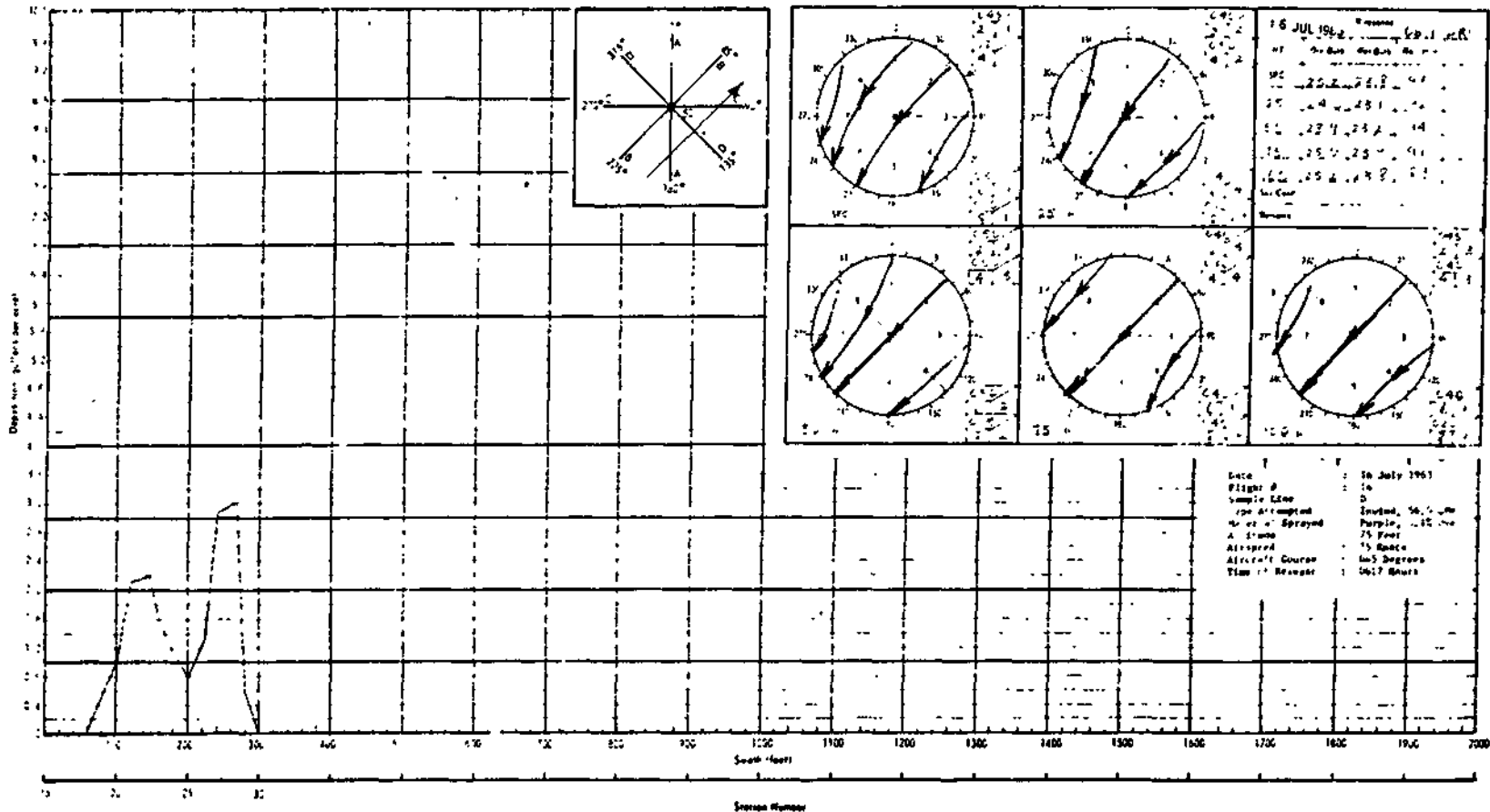
STATION G.P.A. STATION G.P.A. STATION C.P.A. STATION G.P.A.
 Stations 1 - 18 Blank

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

Z Recovery - 108.9

Total 17.5



76 JUL 1963
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Date: 26 July 1963
 Flight # : 16
 Sample Size : 5
 Type of Sample : Inland, 50' x 50'
 Method of Spraying : Purple, 100' x 100'
 A. Frame : 75 Feet
 Aircraft : 75 Space
 Aircraft's Course : 145 Degree
 Time of Release : 0617 Hours

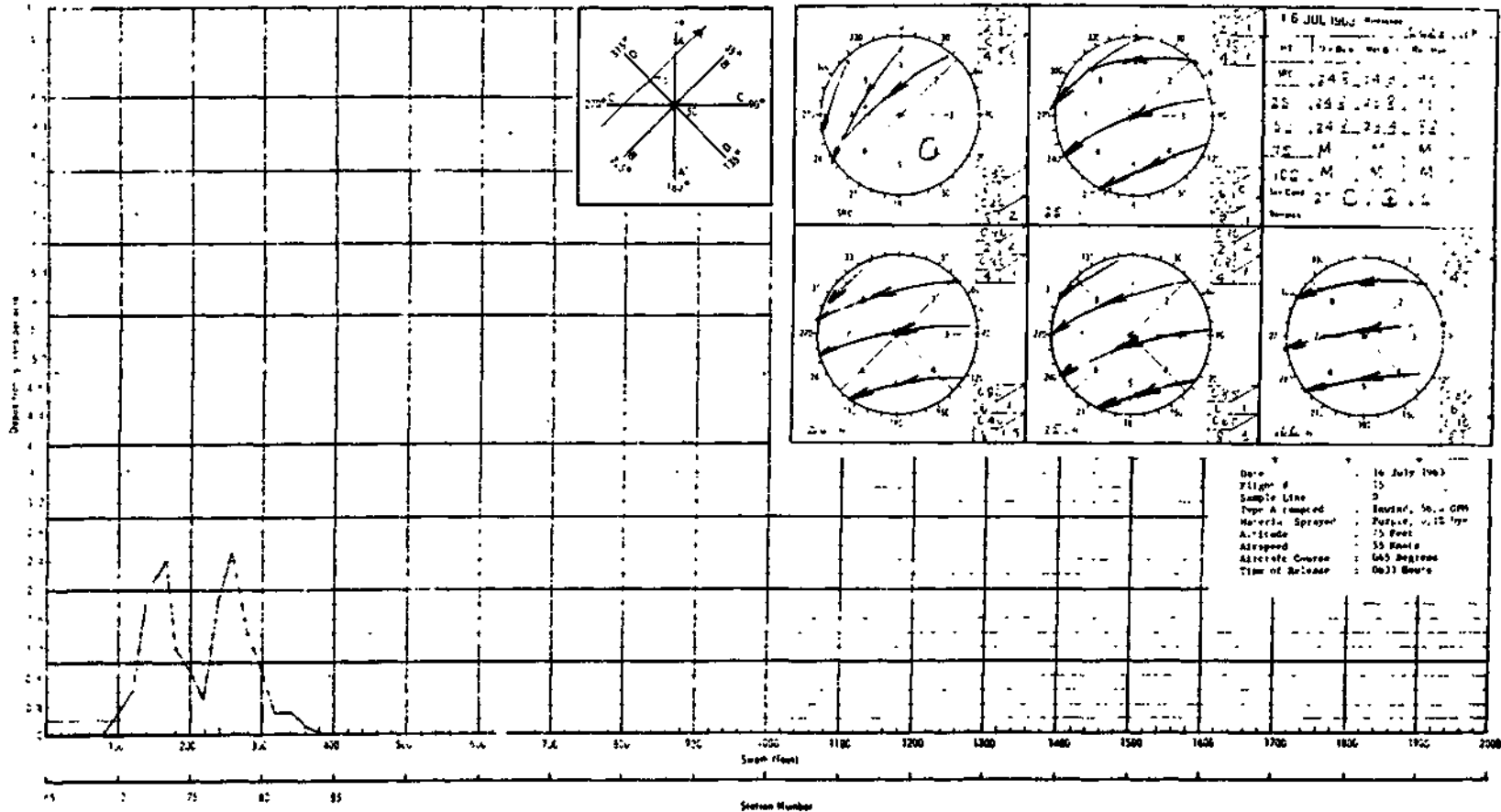
Mass Defoliant

MATERIAL: Purple FLOW RATE: 56 GPM
 DATE: 16 July 1963 SYSTEM: FED-1
 FLIGHT #: 15 AIRSPEED: 55 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0633 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 8 Sec.

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	0.5		
				77	1.9		
				78	2.5		
				79	1.4		
				80	0.9		
				81	0.3		
				82	0.3		
				83	0.1		
				Stations 84	0.1		
							Blank

7 Recovery - 69.8

Total 15.5



MISSION REPORT

MATERIAL: Purple FLOW RATE: .6 GPM
 DATE: 10 July 1963 SYSTEM: WIDAL
 FLIGHT #: 16 AIRSPEED: 53 Knots
 SAMPLE LINE: D ALTITUDE: 75 Feet
 TIME OF RELEASE: 0635 Hours AIRCRAFT COURSE: 045 Degrees
 DURATION: 11 Sec.

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	0.3				
		31	0.2				
		32	0.2				
		33	0.0				
		Stations 34 - 100	Blank				

% Recovery - 81.2

Total 17.2

