19910907I1.LPS

E.2 Lead Project Scientist (On-Board)

E.2.1 Preflight

_____ 1. Participate in general mission briefing.

_____ 2. Determine specific mission and flight requirements for assigned aircraft.

_____ 3. Determine from CARCAH or field program director whether aircraft has operational fix responsibility and discuss with OAO flight director/meteorologist and CARCAH unless briefed otherwise by field program director.

_____ 4. Contact HRD members of crew to:

a. Assure availability for mission.
b. Arrange ground transportation schedule when deployed.
c. Determine equipment status.

_____ 5. Meet with OAO flight crew at least 90 minutes before takeoff, provide copies of flight requirements and provide a formal briefing for the flight director, navigator, and pilots.

_____ 6. Report status of aircraft, systems, necessary on-board supplies and crews to appropriate HRD operations center (MGOC in Miami or FGOC at remote recovery location).

E.2.2 In-Flight

_____ 1. Confirm from OAO flight director/meteorologist that satellite data link is operative (information).

_____ 2. Confirm camera mode of operation.

_____ 3. Confirm data recording rate.

_____ 4. Complete Form E-2.

E.2.3 Postflight

_____ 1. Debrief scientific crew.

_____ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to the appropriate HRD operations center (MGOC or FGOC).

_____ 3. Gather completed forms for mission and turn in at the appropriate operations center. [Note: all data removed from the aircraft by HRD personnel should be cleared with the OAO flight director.]

_____ 4. Obtain a copy of the 10-s flight listing from the OAO flight director. Turn in with completed forms.

_____ 5. Determine next mission status, if any, and brief crews as necessary.

_____ 6. Notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted and arrange for any further coordination required.

Form E-2
Page 1 of 5

On-Board Lead Project Scientist Check List

Date 9/7/91 Aircraft N43RF Flight ID 910907I1

A. Participants

HRD		OAO	
Function	Participant	Function	Participant
Lead Proj. Sci.	Gamache	Flight Director	Barry Damiano
Cloud Physics	Willis / P. Black	Pilots	Tickner, Player
Radar	Dodge / Roux	Navigator	Kozak
Doppler		Sys. Engr.	Salum
Photographer		Data Tech.	Terry Lynch Juan Carlos
Omegasonde	P. Black	El. Tech.	
AXBT/AXCP	P. Black	Other	

Take-Off	Location	Landing	Location
1447	Bermuda	2337:0	Bermuda

B. Past and Forecast Storm Locations

Date/Time	Latitude	Longitude	MSLP	Max. Wind	
07/1000Z	26.9	60.9	940 est, sat	120 kts	Satellite
07/1400Z	27°14'	62			

C. Mission Briefing

Form E-2
Page 4 of 5

#1

185

32 kt rad = 18mm
4) 130
12
10

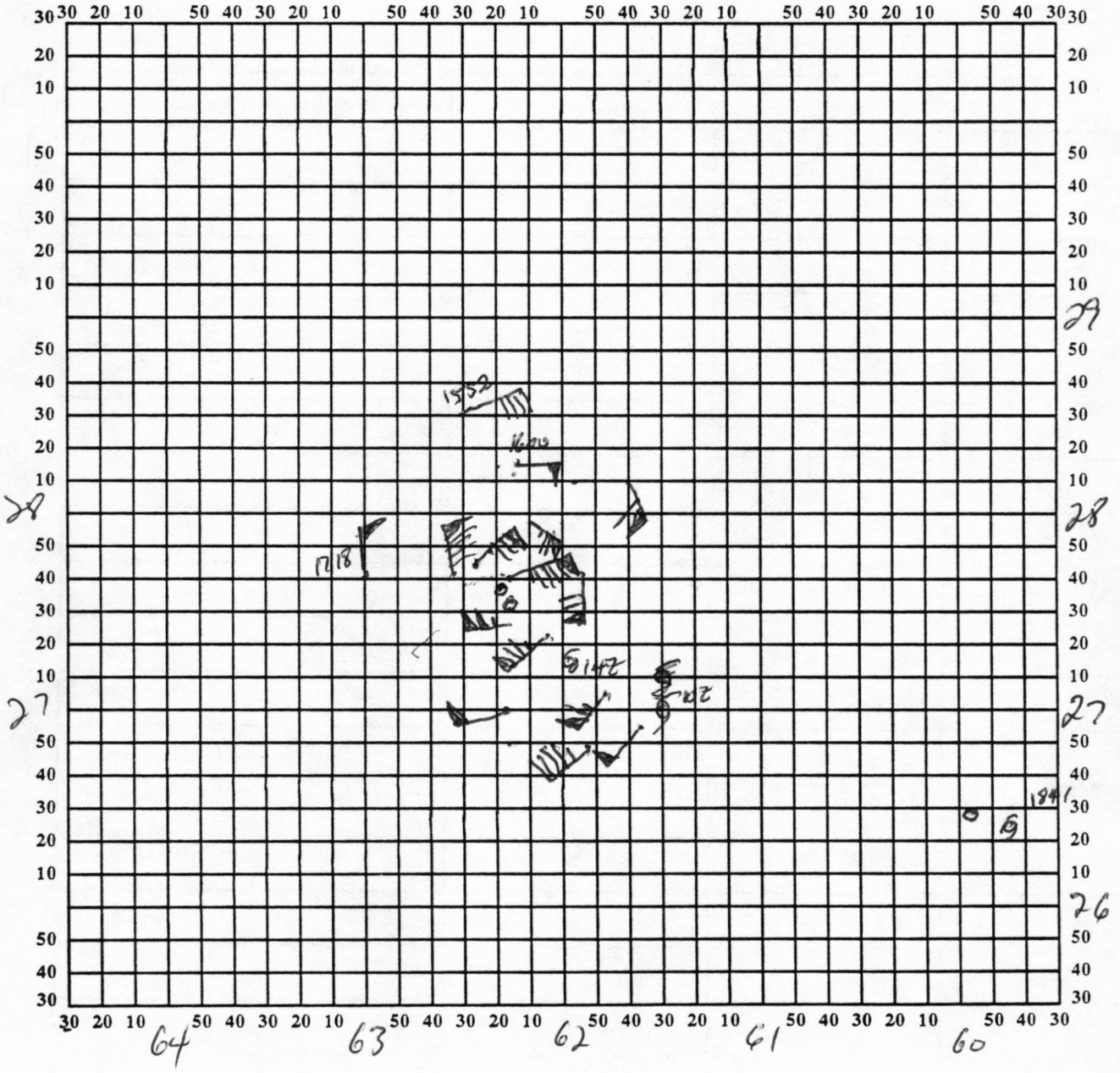
1745 6228

1835

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes

Date 910907I Aircraft 43RF Observer _____



Note: Label full degrees according to location of flight area.

Lead Project Scientist Event Log

Date ________________ Flight ________________ LPS ________________

Time	Event	Position	Comments

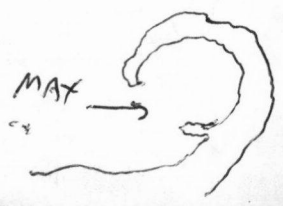
Lead Project Scientist Event Log

Date _____ Flight 910907I LPS _____

Time	Event	Position	Comments
1556		2817 6217	start descent will fly RA=west
1601		2812 6218	12000' = 3640m
1611		2732 6257	eye dia = 25km
1612			max = 105 kt
1622			turn @ 1
1632		2652 6132	turn @ 2
			max Z SE of eye wall
1646			eye orbit N→W 115 kt max, 11 n mi eye
164740		2738 6219	eye 42 radar prob.
1650			max 90 kt inbound at pt
1702			turn
170740			loiter at pt 4
171510			lead inbound 42 fixed
1726		~~2740~~ 6217	95 kt max eyedia 30 km
1728		2740 6217	mixed center
1729			105 kt max
1739			turn pt 5
1745			turn at pt 6 inbound
175620			max 95 kt
175840		2740 6238	eye 42 passed visually
			~1.2 mi to NW

175940

max 95 kt
max in clear at rad of eyewall



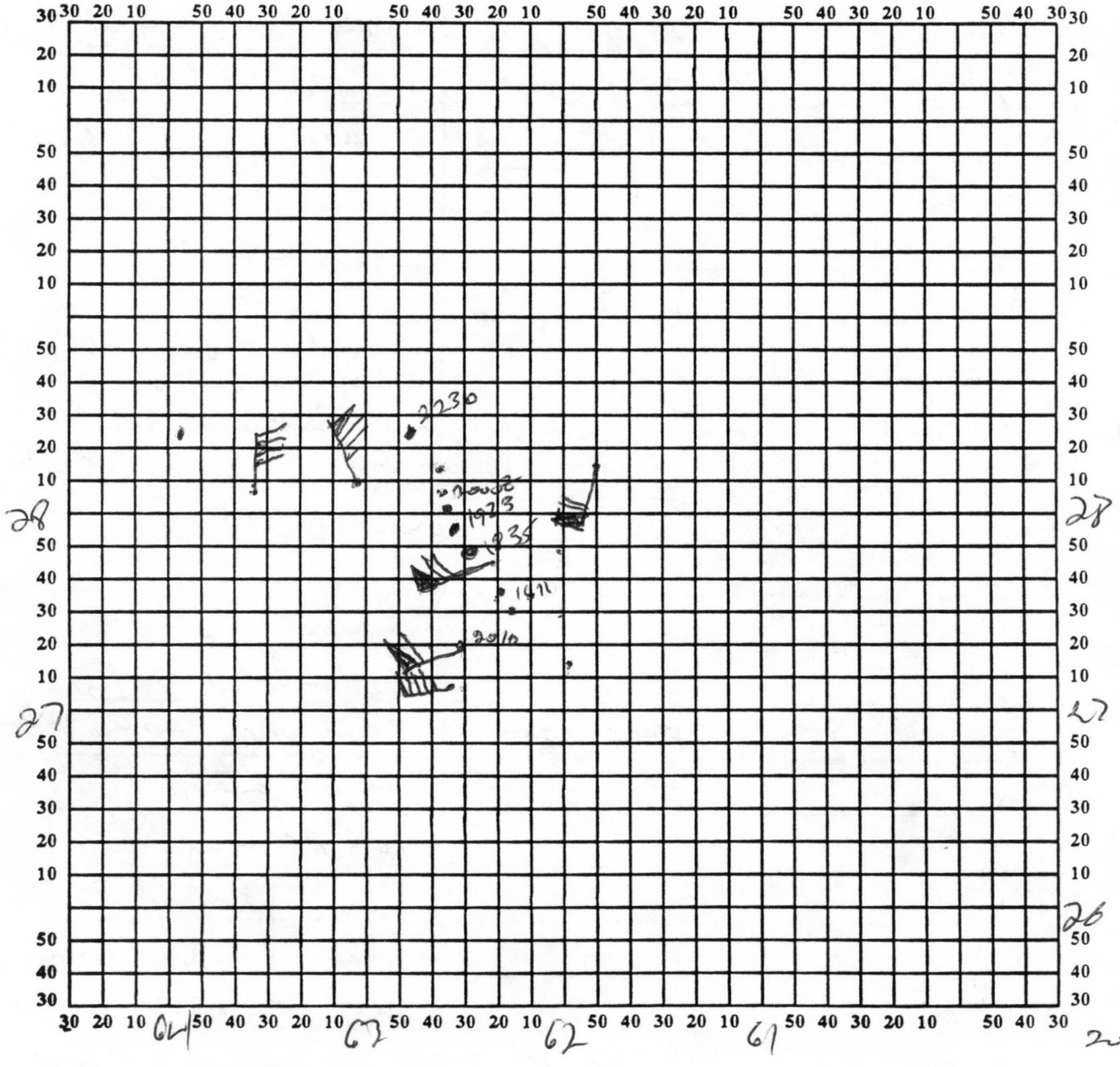
Form E-2
Page 4 of 5

#2

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes

Date _____ Aircraft 9/0907I Observer _____



Note: Label full degrees according to location of flight area.

2039 2808
6737

1923Z 2755 2801
6277 6235
9L1 AF

#2

Form E-2
Page 5 of 5

Lead Project Scientist Event Log

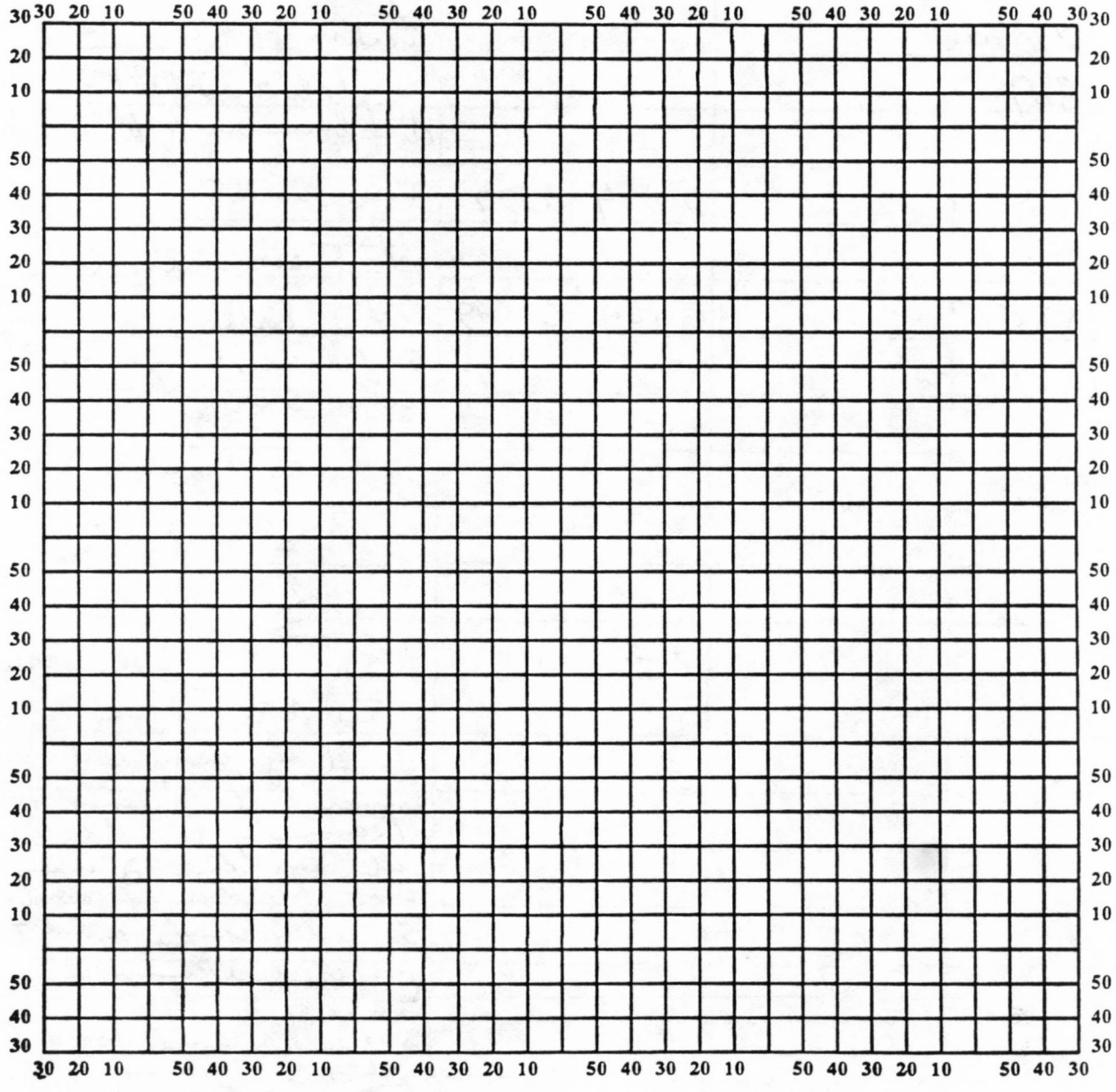
Date _____ Flight 9/0907 I LPS _____

Time	Event	Position	Comments
191020			turn pt #7
1809			switch to INE #2
			had been on #1
1818		27°05 6217	turn in #8
1822			start eraimmar
1835		27°49' 62°29	42 center
1847			S of center, complete 1st circle
1900			wind ~ 80 kt
1906			S of center complete 2nd circle
			E of center
			N of center
1916		2746 6219	S of center complete circle #3
			wind NE of S now 96-97 kt
1936			double eye seems to be forming
			inner bette defined all around, becoming closed
			outer eye dia 45 nmi
			inner eye dia 12 nmi
1940			S of center complete circle #5
			#2 W of center beginning run to center then we go S
2000			S of center finish loop #6 end heading S
2013			turn off at S point

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes

Date _____ Aircraft _____ Observer _____



Note: Label full degrees according to location of flight area.

p 3

Lead Project Scientist Event Log

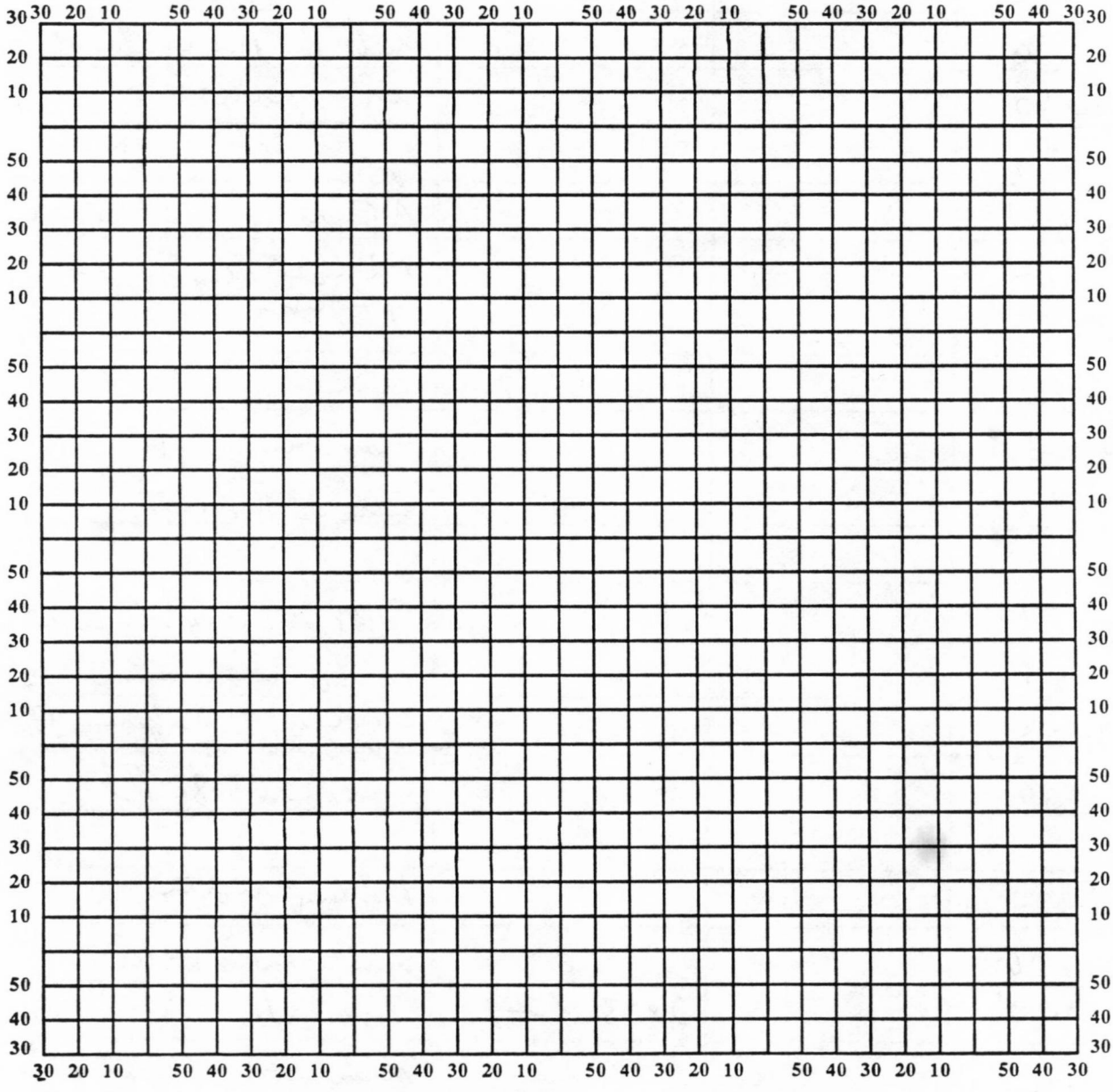
Date _____ Flight _____ LPS _____

Time	Event	Position	Comments
2022			turn inbound
2036			hub cloud in center of eye
2037			max 100kt
2039		2808 6237	eye
2101			AR now has 952 mb
2104			42 lost data system upgrades
2118		2814 6237	center
2120			max wind 95 kt
2132			turn at F point
2151			90kt in outer "eyewall"
2153			105kt wind max
2155			inner eye dia = 20 nm = 12 mi outer eye dia = 60 km = 36 mi
2154			max wind 85 kt
2215			heading north
2226			max wind = 85kt
2228		2823 6247	eye center
2230			max wind = 100 kt

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes

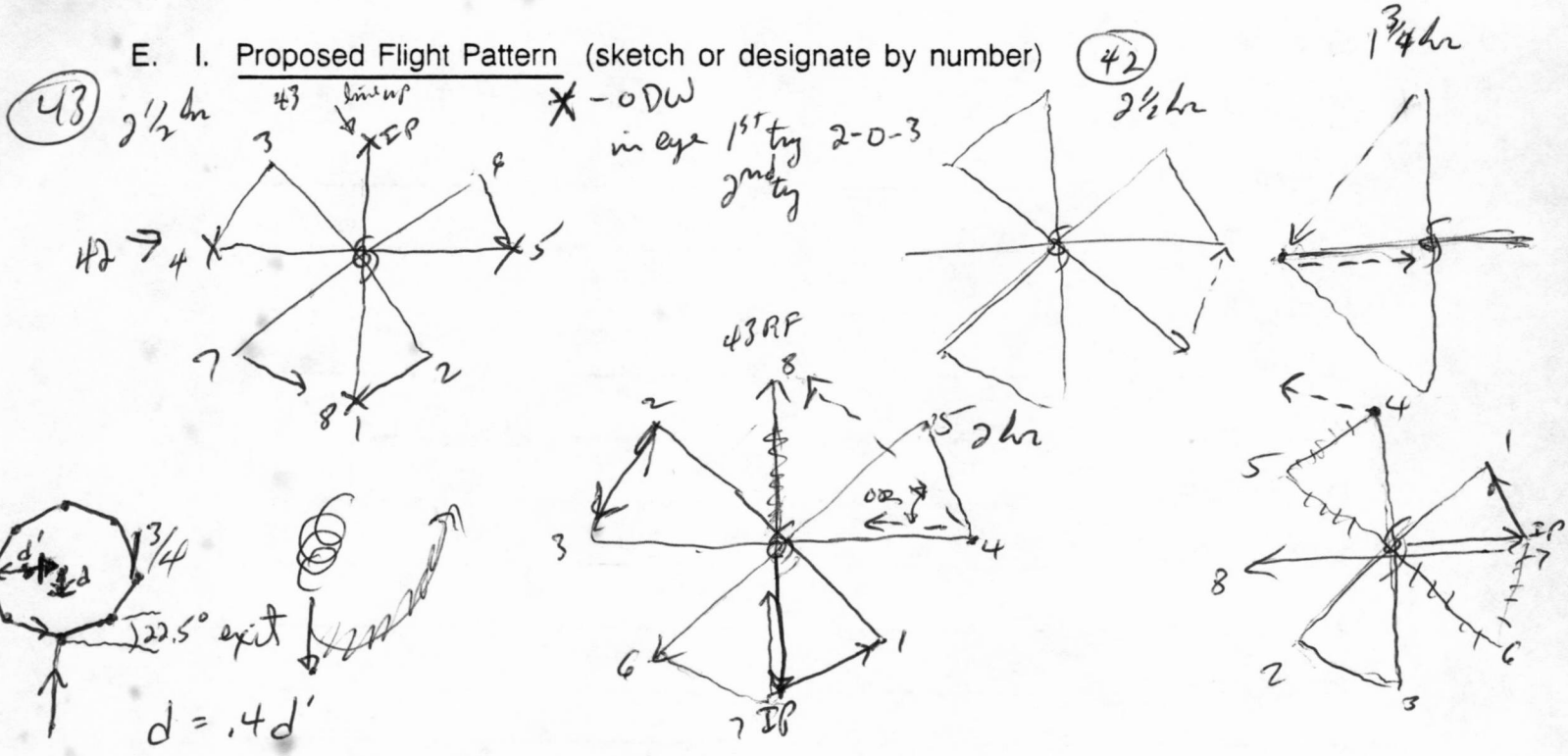
Date _____ Aircraft _____ Observer _____



Note: Label full degrees according to location of flight area.

9/09/07 I

E. I. Proposed Flight Pattern (sketch or designate by number)



E. II. Actual Flight Pattern

if d ≈ 10 nmi
d' = 25 nmi

Rex at 40 kts = 22 nmi

D. Equipment Status

Equipment	Pre-Flight	In-Flight	Post-Flight
Aircraft			
Radar/LF			
Radar/TA (Doppler)			
Cloud physics			
Data system			
Omegasondes			
AXBT/AXCP			
Workstation			
Photography			

REMARKS:

E.2 Lead Project Scientist (On-Board)

E.2.1 Preflight

_____ 1. Participate in general mission briefing.

_____ 2. Determine specific mission and flight requirements for assigned aircraft.

_____ 3. Determine from CARCAH or field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist and CARCAH unless briefed otherwise by field program director.

_____ 4. Contact HRD members of crew to:

a. Assure availability for mission.
b. Arrange ground transportation schedule when deployed.
c. Determine equipment status.

_____ 5. Meet with AOC flight crew at least 90 minutes before takeoff, provide copies of flight requirements and provide a formal briefing for the flight director, navigator, and pilots.

_____ 6. Report status of aircraft, systems, necessary on-board supplies and crews to appropriate HRD operations center (MGOC in Miami or FGOC at remote recovery location).

E.2.2 In-Flight

_____ 1. Confirm from AOC flight director that satellite data link is operative (information).

_____ 2. Confirm camera mode of operation.

_____ 3. Confirm data recording rate.

_____ 4. Complete Form E-2.

E.2.3 Postflight

_____ 1. Debrief scientific crew.

_____ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to the appropriate HRD operations center (MGOC or FGOC).

_____ 3. Gather completed forms for mission and turn in at the appropriate operations center. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]

_____ 4. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.

_____ 5. Determine next mission status, if any, and brief crews as necessary.

_____ 6. Notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted and arrange for any further coordination required.

Form E-2
Page 1 of 5

On-Board Lead Project Scientist Check List

Date _____ Aircraft 43RF Flight ID 910907I

A. Participants

HRD		OAO	
Function	Participant	Function	Participant
Lead Proj. Sci.	GAMACHE	Flight Director	DAMIANO
Cloud Physics	WILLES / BLACK	Pilots	TICHNOR / P. KENNEDY /
Radar	DOOGE / ROUX	Navigator / RADEO	/ WHITE
Workstation		Sys. Engr.	Salim Leyva
Photographer		Data Tech.	JUAN CARLOS
Omegasonde	BLACK	El. Tech.	
AXBT/AXCP		Other	

Take-Off	Location	Landing	Location
1448Z	BDA (32°21' 64°40')		

1 1/2 ferry

B. Past and Forecast Storm Locations

Date/Time	Latitude	Longitude	MSLP	Max. Wind
07/10Z	27.0	61.5		110 + 135
06/1841	26°26'	59°45'	965	
06/2033	26°29'	59°54'	961	100
07/14Z	27°14'	61°09'		
est 07/16Z	28°10'	62°14'		

290° @ 6kt

C. Mission Briefing

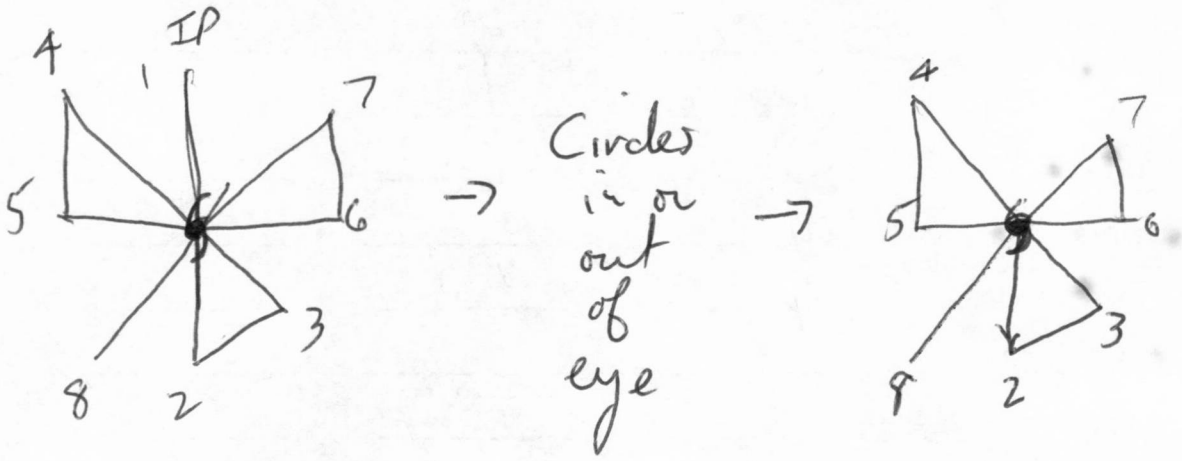
D. Equipment Status

Equipment	Pre-Flight	In-Flight	Post-Flight
Aircraft	N43RF	up	
Radar	~~Radar~~ up		
Cloud physics	up		
Data system	up		
Omegasondes	up		
AXBT/AXCP			
Doppler			
Photography	Nose camera looks suspect	up	

REMARKS:

We need more Radar tapes on plane

E. I. Proposed Flight Pattern (sketch or designate by number)



E. II. Actual Flight Pattern

Lead Project Scientist Event Log

Date 9/7/91 Flight 900907I1 LPS Gamache

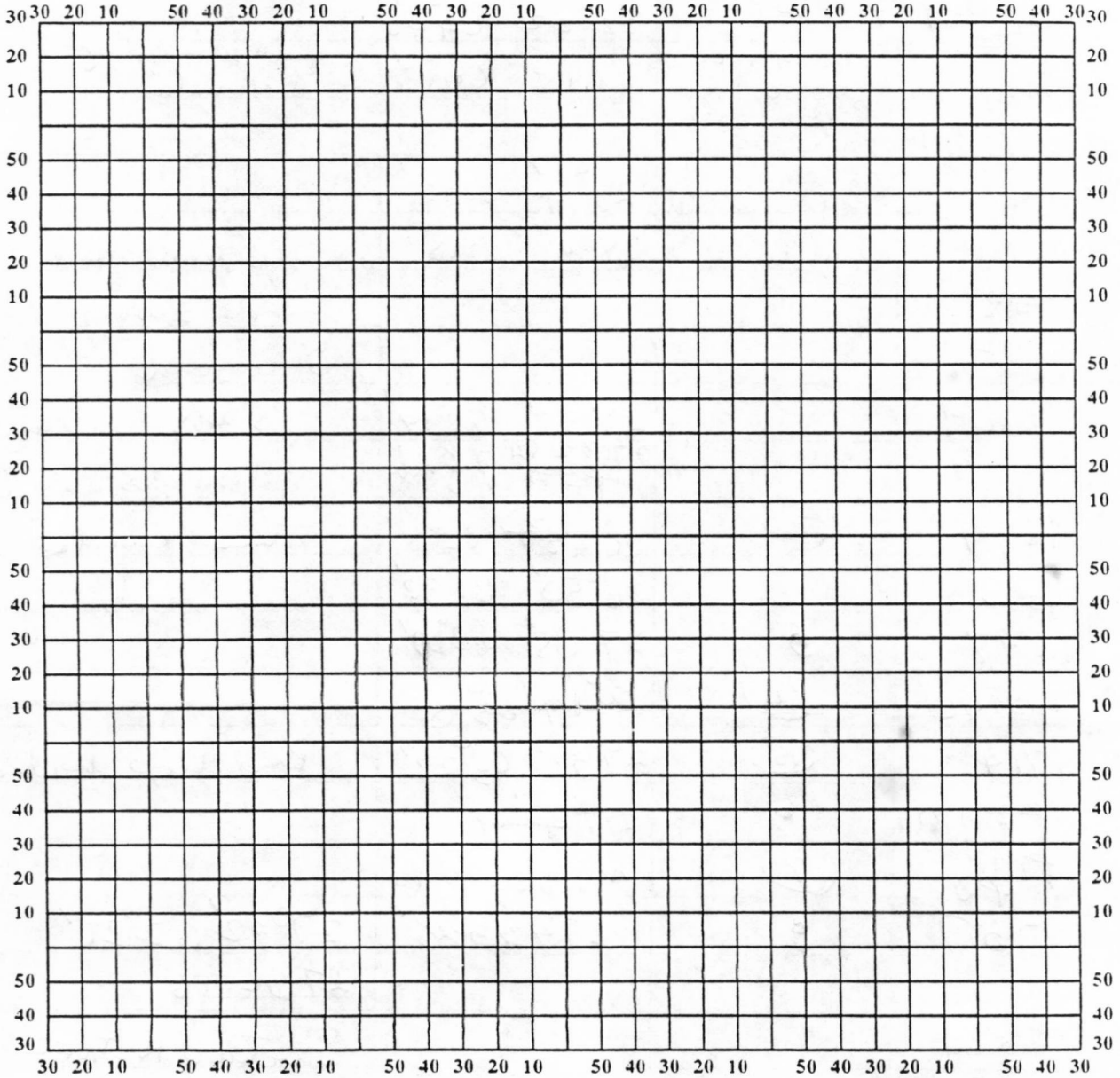
Time	Event	Position	Comments
~~1447~~ 1458	T/O	32°22' 64°40'	
1511	Radar rec. started	31 15' 64 1'	Good image of Bermuda
1529-1540	Problem with radar recording		
1552	Descent started	28°14' 62°12'	
1601	Wings level	28°15' 62°18'	Wings level track 186°
~~1618~~ 1601			Sonde away
21~~43~~			
1603			Bad sonde
1609		27°37' 62°14'	95 kts wind max N upward
1609		~~27°32' 62°21'~~ 955 mb	42 marks center
21438			
1624	(2)	26°42' 62°8'	Turn toward (3)
1632		26°50' 61°32'	Turn toward eye at (3)
1647	9	27°38' 62°10'	
165940	(4)	28°14' 63°0'	
1714	(5)	27°37' 63°22'	Bad drop heading in
~~1726~~ 1727	9	~~27°41'27~~	
17~~26~~	(7)	~ 28 20 61 40	?
1757	9	27°42' ~~62°26'~~	27°42' 62°26' 955mb
			~~27 32~~ 6
1809			Switched to INE2 Left radar on INE1
1820	(8)	27°8' 62°29'	
1838		28°8' 62°34'	Doing our circles

T/O N42RF 144350

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes of ϕ and λ.

Date_____ Longitude _____ Observer _____



Note: Label full degrees according to location of flight area.

CD
BC
AB

Form E-2
Page 5 of 5

Claudette

Lead Project Scientist Event Log

Date _____ Flight 910907I1 LPS Gamache

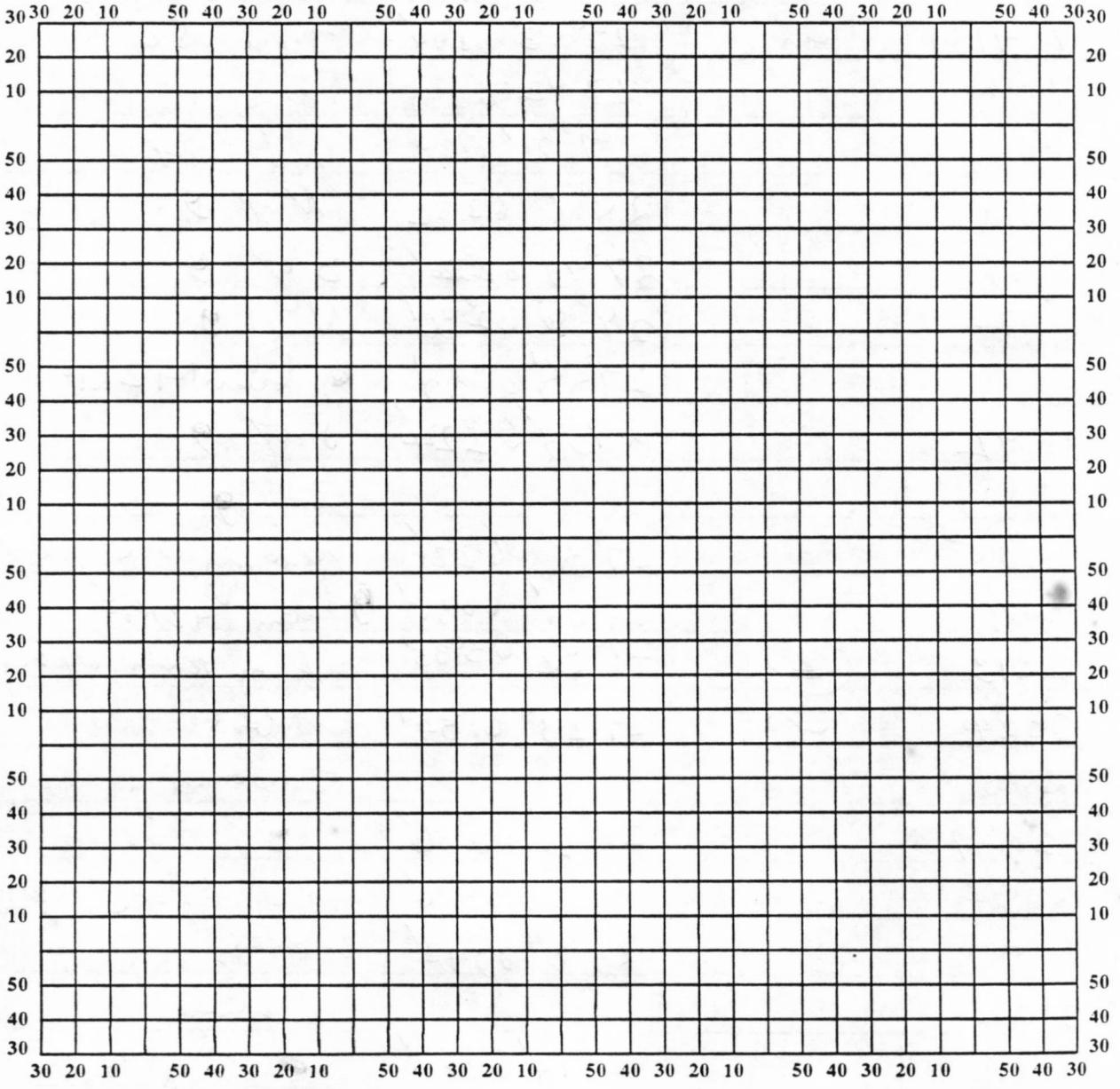
Time	Event	Position	Comments
1841	Turn	27°53' 62°44'	Track 180
1844		27 42 6238	Track 112
1901		27°32'6224	Track 64
1908		28° 5' 6232	N of 9
1915		27°43 62°36'	S of 9
1922		28° 6' 62°36'	N of 9
1927 ⇒		27°55'62°33'	9 from N42RF
1942		27°53' 62°24'	S of 9
1945			E of 9
2005		27°35' 62°25'	heading S to point 2 of pattern
2001		28°01' 62°35'	9 from 42RF
2013	(2)	27°6' 63°33'	back in rotating alpha pattern
2024	(3)	27°23' 61°54'	circling
2025			Inbound at 315°
2039		28°02' 62°36'	9 959mb from N43RF
2052	(4)	28°43' 63°20'	head 203° to (5) W. of center
2100	(5)	28° 8' 63°42'	orbiting
2104			Inbound
2118		28°14' 62°40'	9 959 mb.
2131	(6)	28°17' 61°41'	
213320		28°21' 61°42'	Drop Good ODW

2320

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes of ϕ and λ.

Date_____ Longitude _____ Observer _____



Note: Label full degrees according to location of flight area.

Lead Project Scientist Event Log

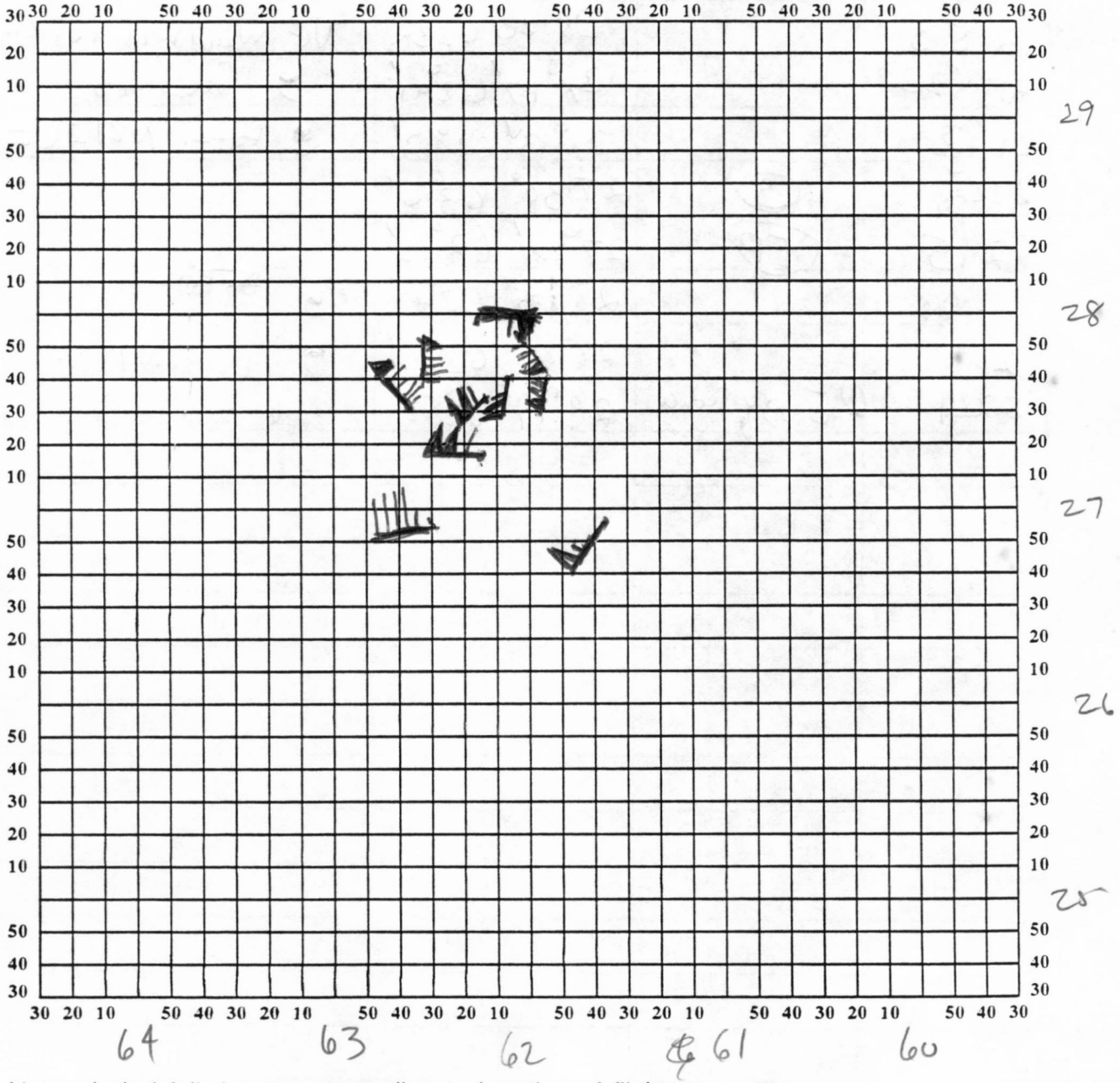
Date _____ Flight 900907I LPS Gamache

Time	Event	Position	Comments
2153		28 20 6238	NE Wind max 105 kts
2155 20		28° 17' 62° 45'	9 from 43
2158		28° 13' 62° 43'	9 from N42RF
2208	(8)	27° 39' 63° 16'	
2215	(FP)	27° 28' 62° 42'	
2228		28° 19' 62° 47'	958 9 60 kt max off S. side 100 kt max on N side
2229		28° 21' 62° 48'	9 from N42RF
2241	(1) END of Science	29° 19' 62° 52'	going to Bermuda

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes of ϕ and λ.

Date 9/7/91 Longitude _____ Observer Camacho

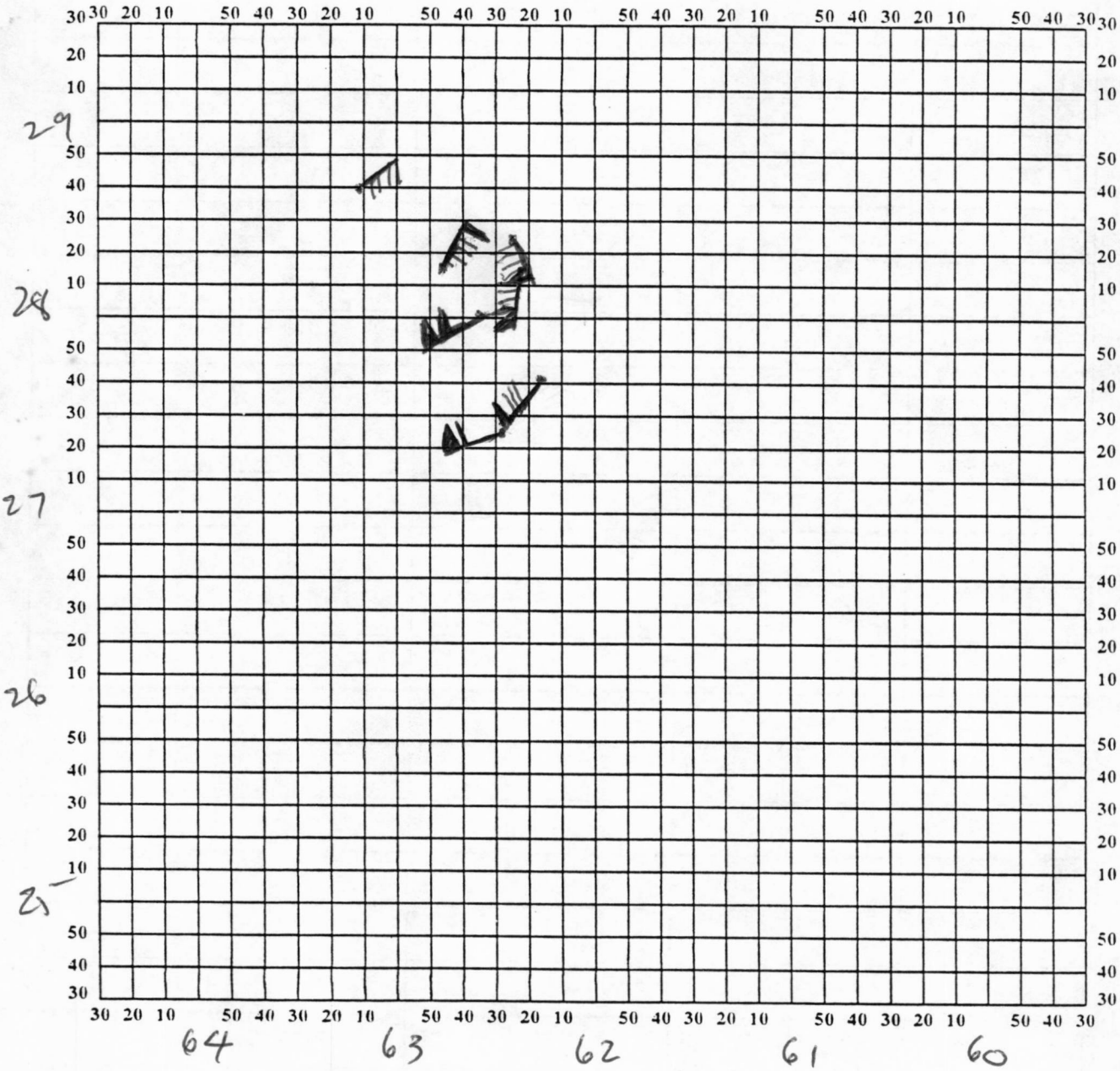


Note: Label full degrees according to location of flight area.

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes of ϕ and λ.

Date_____ Longitude _____ Observer _____



Note: Label full degrees according to location of flight area.

Lead Project Scientist Event Log

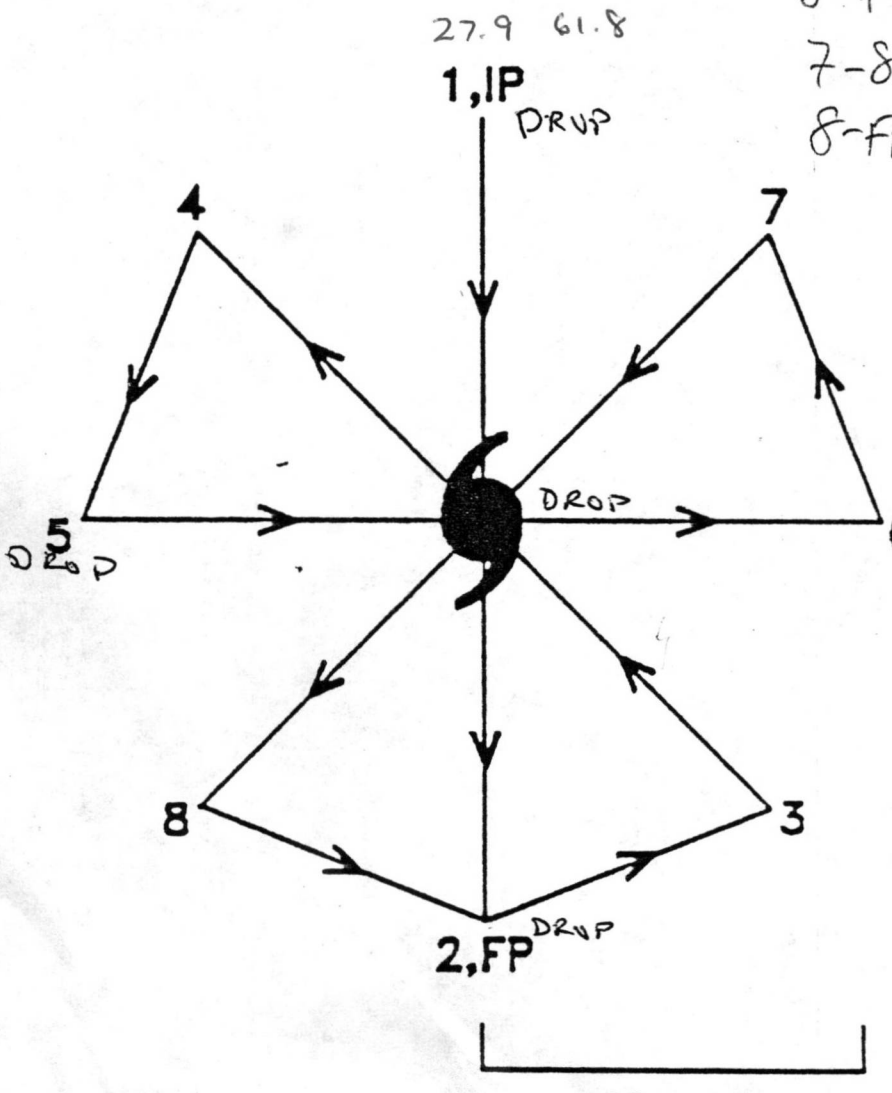
Date ________________ Flight ________________ LPS ________________

Time	Event	Position	Comments

Pts	Track
1-2	180
2-3	68
3-4	315
4-5	203
5-6	90
6-7	338
7-8	225
8-FP	113

ON EXPERIMENT

High
43RF



downwind
Circle

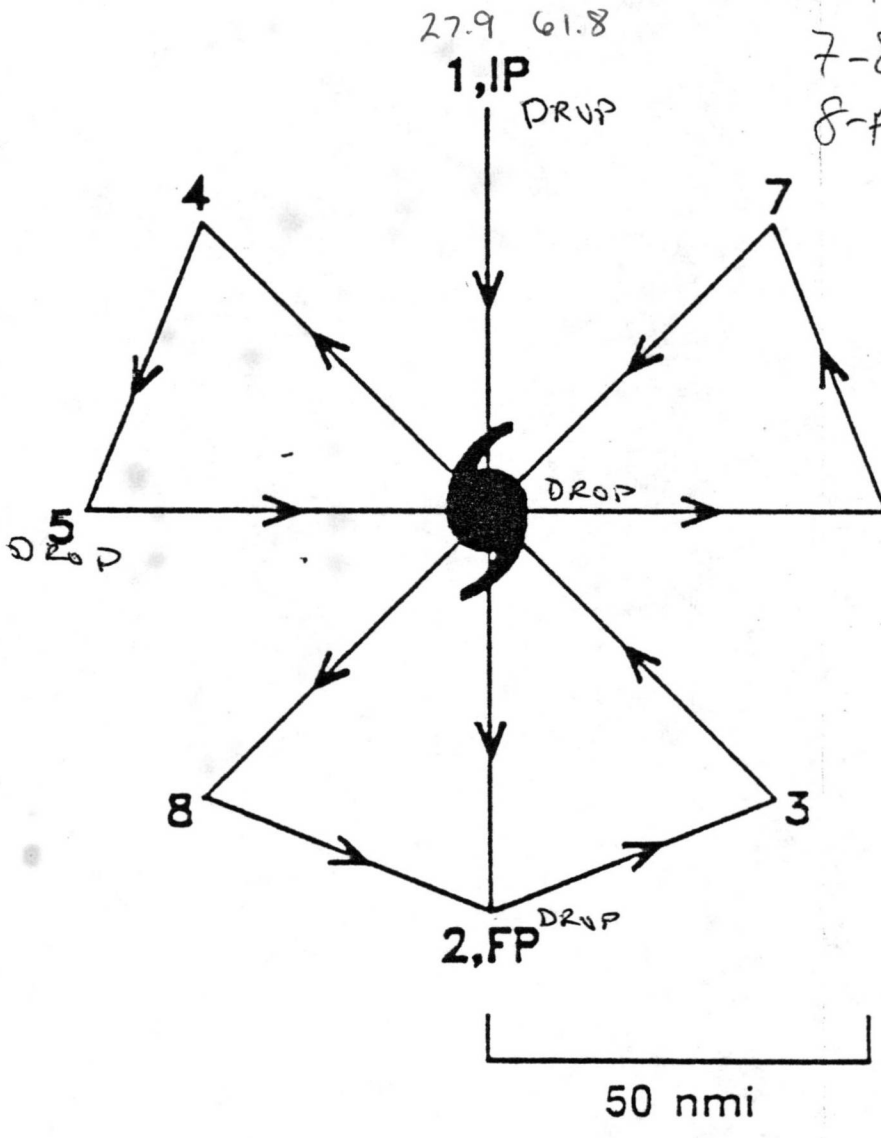
Pts	track
6→2	180
2→3	68
3→4	315
4→5	203
5→6	90
6→7	338
7→8	225
8→IP	113

21. Eyewall Evolution Experiment:
~~Lower~~ aircraft pattern.
High

Pts	Track
1-2	180
2-3	68
3-4	315
4-5	203
5-6	90
6-7	338
7-8	225
8-FP	113

ON EXPERIMENT

High
43RF

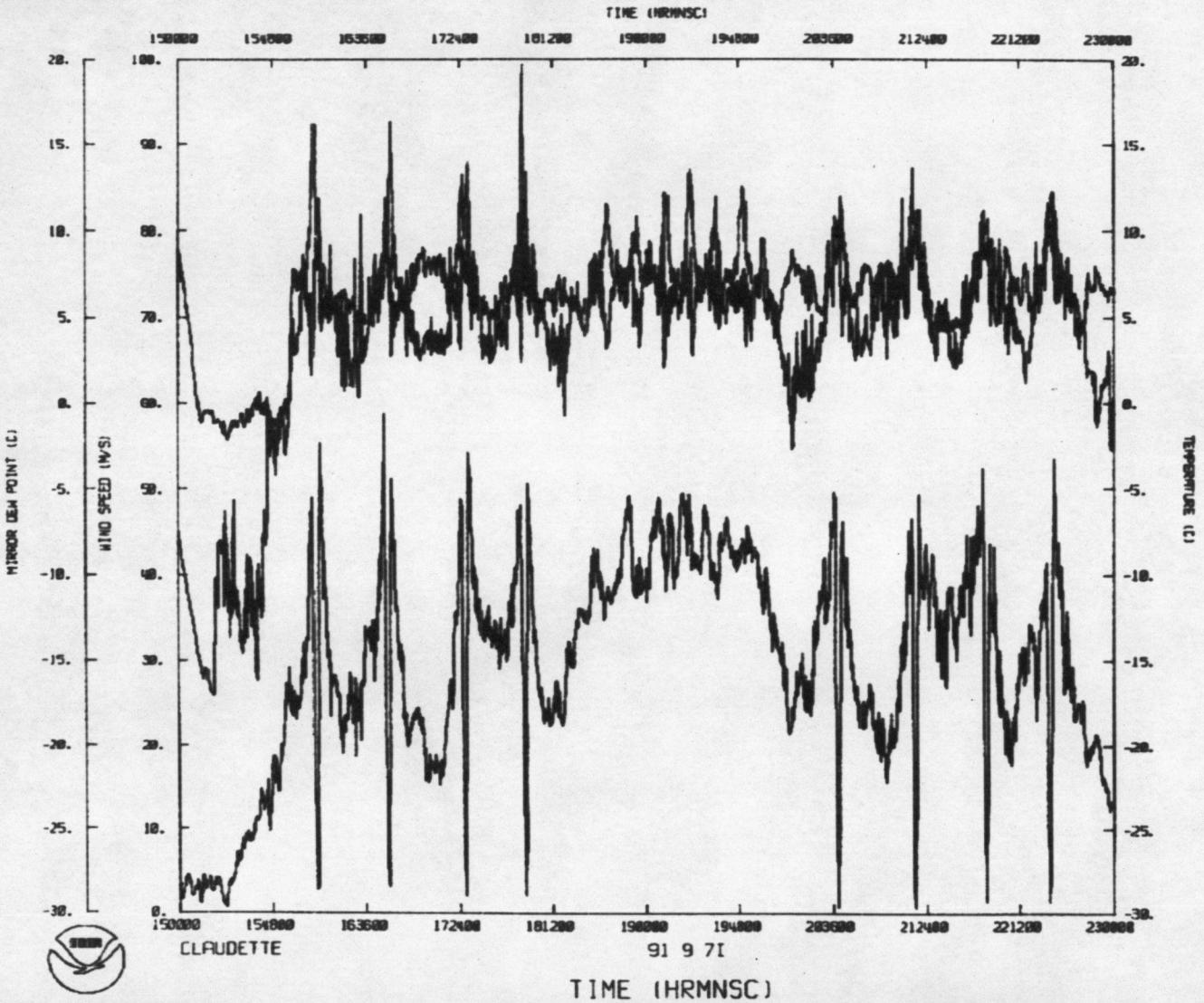


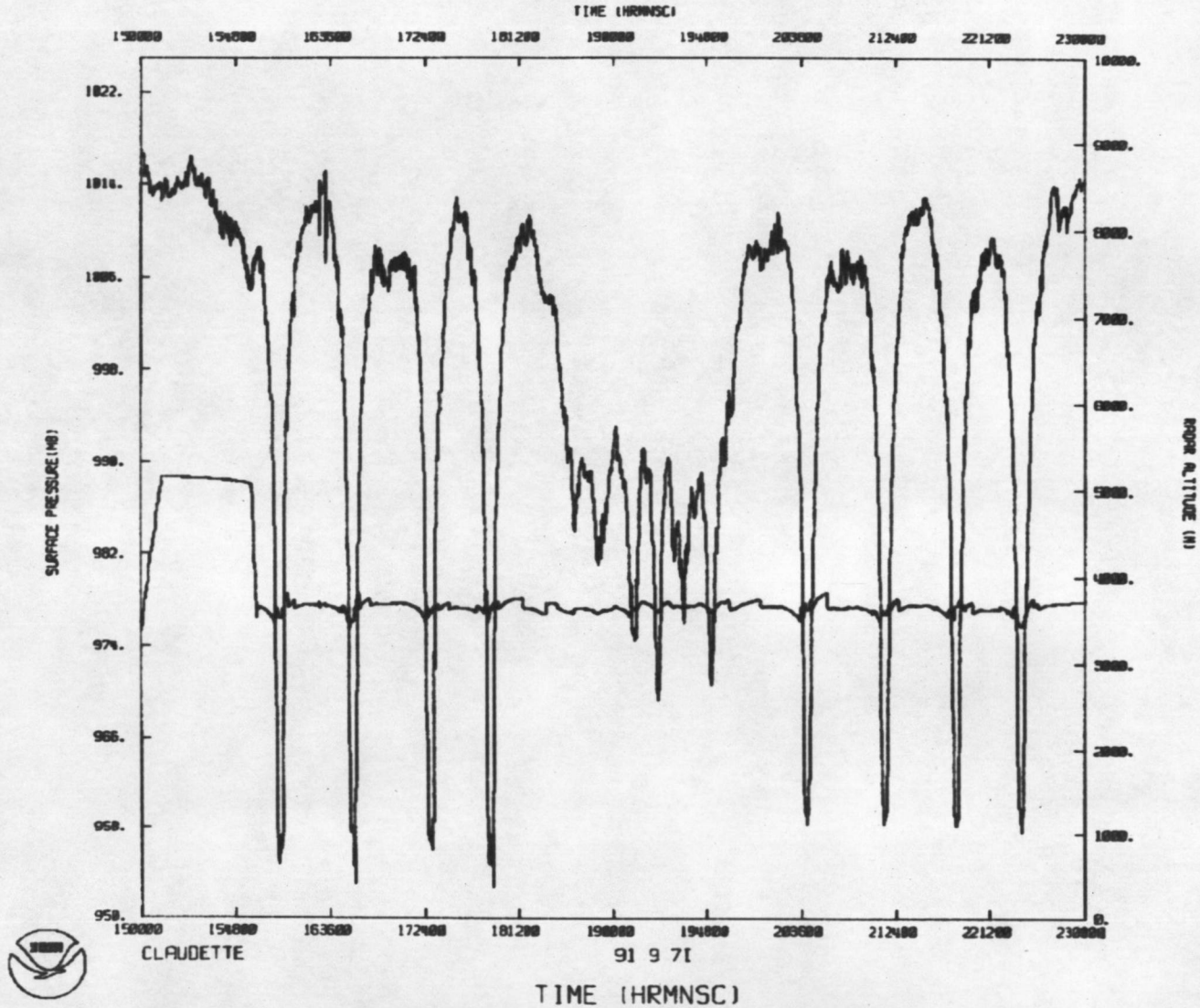
downwind
Circle

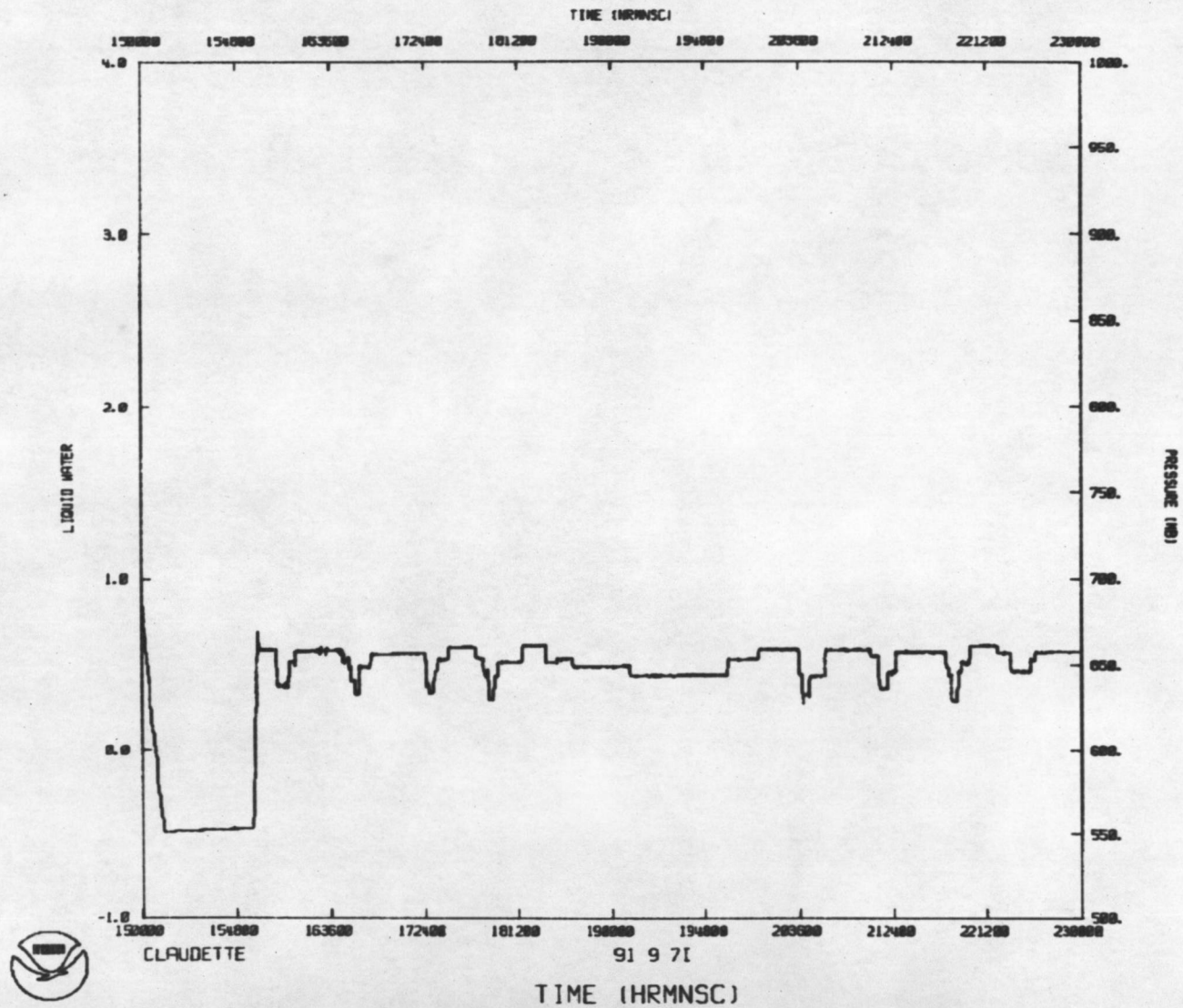
Pts	track
6→2	180
2→3	68
3→4	315
4→5	203
5→6	90
6→7	338
7→8	225
8→IP	113

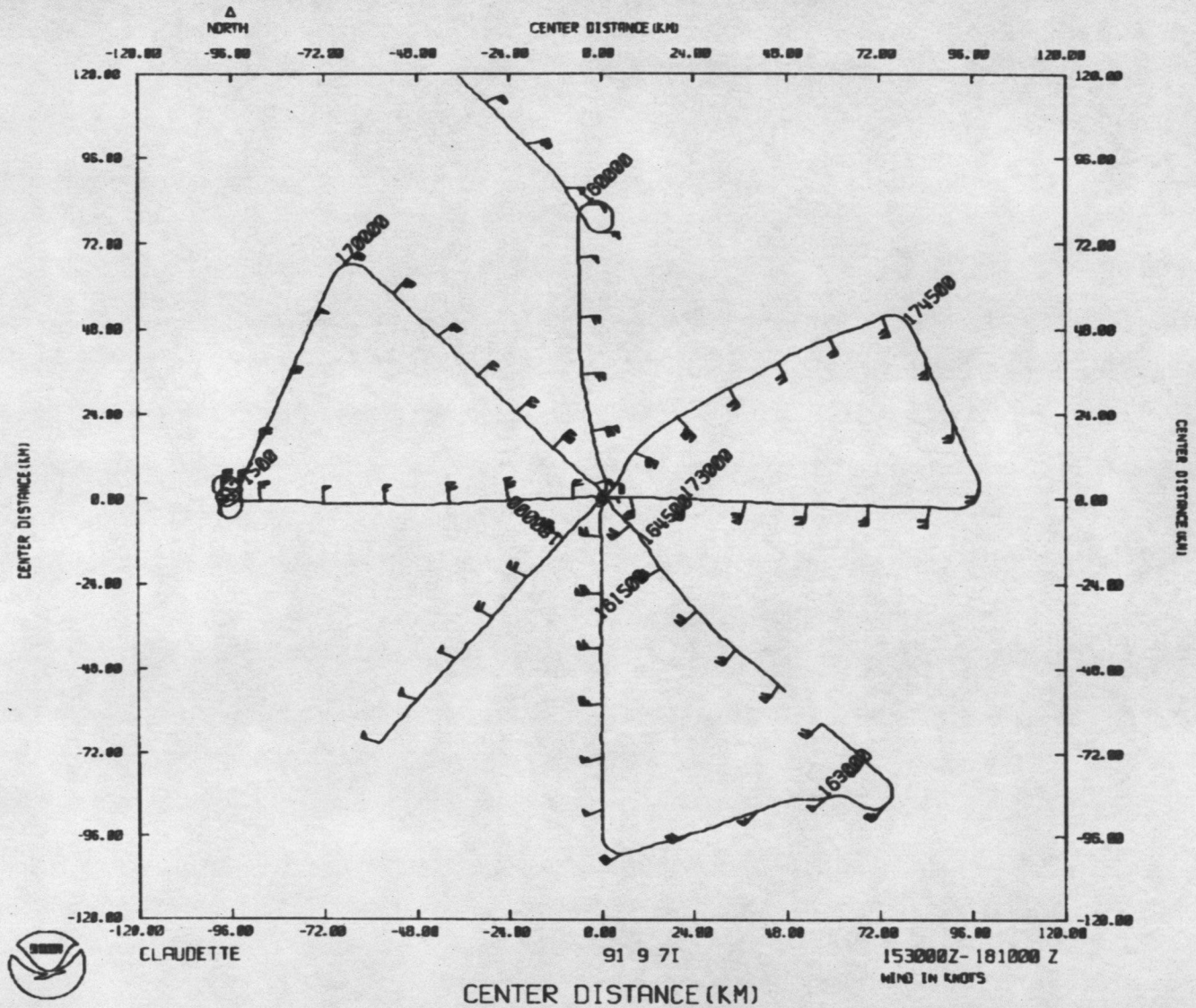
21. Eyewall Evolution Experiment: Lower aircraft pattern.

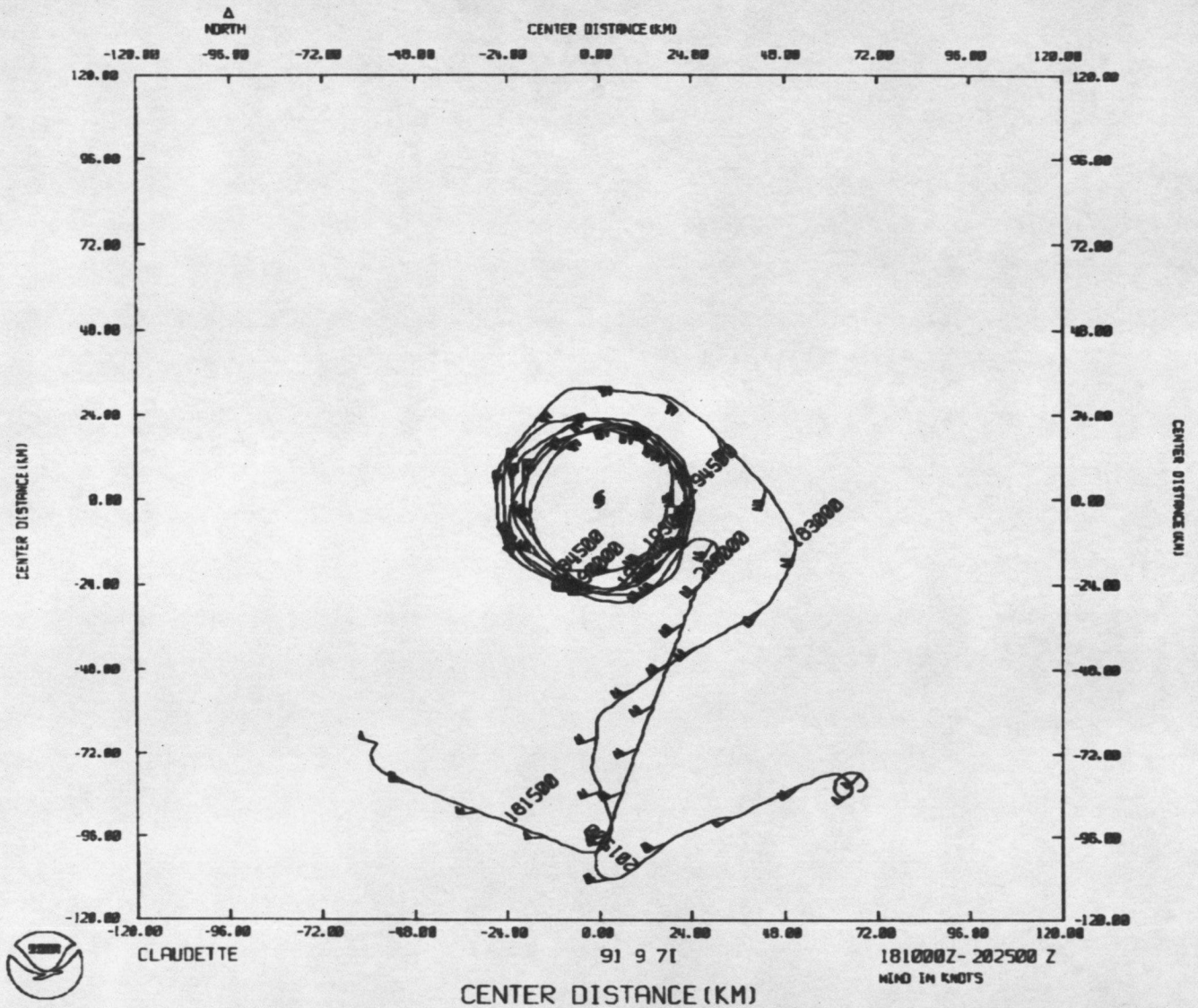
High

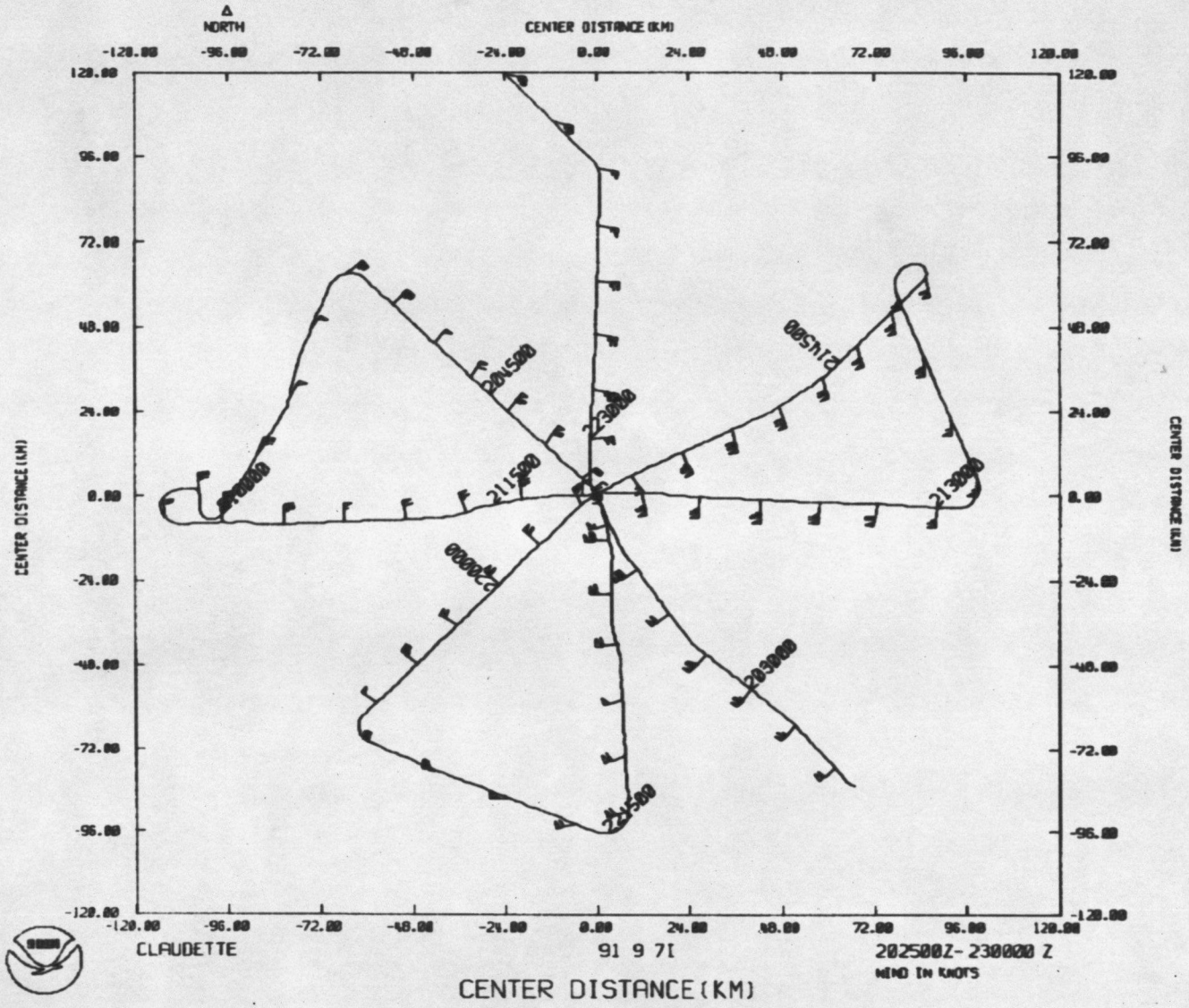

TIME (HRMNSC)
150000
154800
163600
172400
181200
190000
194800
203600
212400
221200
230000
MIRROR DEW POINT (C)
WIND SPEED (M/S)
TEMPERATURE (C)
CLAUDETTE
91 9 7I
TIME (HRMNSC)


TIME (HRMNSC)
150000
154000
163600
172400
181200
190000
194000
203600
212400
221200
230000
1022.
1014.
1006.
998.
990.
982.
974.
966.
958.
SURFACE PRESSURE (MB)
10000.
9000.
8000.
7000.
6000.
5000.
4000.
3000.
2000.
1000.
0.
RADAR ALTITUDE (M)
CLAUDETTE
91 9 7(
TIME (HRMNSC)


TIME (HRMNSC)
LIQUID WATER
PRESSURE (MB)
CLAUDETTE
91 9 7I
TIME (HRMNSC)


NORTH
CENTER DISTANCE (KM)
-120.00
-96.00
-72.00
-48.00
-24.00
0.00
24.00
48.00
72.00
96.00
120.00
CENTER DISTANCE (KM)
CLAUDETTE
91 9 7I
153000Z- 181000 Z
WIND IN KNOTS
CENTER DISTANCE (KM)


NORTH
CENTER DISTANCE (KM)
-120.00
-96.00
-72.00
-48.00
-24.00
0.00
24.00
48.00
72.00
96.00
120.00
CENTER DISTANCE (KM)
181500
183000
CLAUDETTE
91 9 7I
181000Z- 202500 Z
WIND IN KNOTS
CENTER DISTANCE (KM)


NORTH
CENTER DISTANCE (KM)
-120.00
-96.00
-72.00
-48.00
-24.00
0.00
24.00
48.00
72.00
96.00
120.00
CENTER DISTANCE (KM)
CLAUDETTE
91 9 7I
202500Z-230000 Z
WIND IN KNOTS
CENTER DISTANCE (KM)