

19780922HL FDIR

|                                                                                                                                                                       |                               |                                   |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------|--------|
| RFC-1 WORK FORM<br>(7-76) U.S. DEPARTMENT OF COMMERCE<br>NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION<br>RESEARCH FACILITIES CENTER<br>MIAMI, FLORIDA              |                               | AIRCRAFT<br>N42RF                 |        |
| FLIGHT LOG                                                                                                                                                            |                               | FLIGHT NO.<br>76-78               |        |
|                                                                                                                                                                       |                               | FLIGHT ID<br>780922H              |        |
|                                                                                                                                                                       |                               | DATE<br>SEP. 22, 78               |        |
| TAKE OFF (City or airport)<br>MIA                                                                                                                                     | LAND (City or airport)<br>MIA | ALTITUDE<br>14K-20K               |        |
| PURPOSE RESEARCH - NHEML-CG-LOCUS                                                                                                                                     |                               |                                   |        |
| PROPOSED TAKEOFF TIME: 1715Z                                                                                                                                          |                               | PROPOSED FLIGHT DURATION: 4-5 HRS |        |
| TIME IN: 2110Z                                                                                                                                                        |                               | TIME ON: 2106Z                    |        |
| TIME OUT: 1735Z                                                                                                                                                       |                               | TIME OFF: 1747Z                   |        |
| BLK. TIME: 3.35 HRS                                                                                                                                                   |                               | FLIGHT TIME: 3.19 HRS             |        |
| FLIGHT PERSONNEL                                                                                                                                                      |                               |                                   |        |
| OPERATIONS CREW                                                                                                                                                       |                               | SCIENTIFIC CREW                   |        |
| VISITORS                                                                                                                                                              |                               |                                   |        |
| TURNER                                                                                                                                                                |                               | DAVIS                             |        |
| NOBLE                                                                                                                                                                 |                               | BROWN                             |        |
| NELSON                                                                                                                                                                |                               | CONNOR                            |        |
| ROSE                                                                                                                                                                  |                               | FEANELL                           |        |
|                                                                                                                                                                       |                               |                                   | SAX    |
|                                                                                                                                                                       |                               |                                   | KELLER |
|                                                                                                                                                                       |                               |                                   | WILLIS |
|                                                                                                                                                                       |                               |                                   | LEWIS  |
| PROPOSED MISSION<br>THING CL PENETRATIONS 14 TO 20K                                                                                                                   |                               |                                   |        |
| ACTUAL MISSION AND REMARKS<br>AS PLANNED<br>14 PENETRATIONS                                                                                                           |                               |                                   |        |
| DATA COLLECTED AND REMARKS<br>1 STD ALC DIG TAPES; 2 HI DENSITY ALC DIG TAPES;<br>12 RADAR ADMTR1, 1 DMTR2; CLO PHOTO, N, LS, RS;<br>PMS, FORMYAR<br>INED INOP ON T/O |                               |                                   |        |

NOV 7 RECD

425  
009

3000

| A/C COMMANDER<br><i>Turner</i>                                                                                                            |                                 | NAVIGATOR<br><i>Nelson</i> |                                 | A/C NO.<br><i>N 42RT</i>                  |                   | MISSION NO.<br><i>780922</i>               |                        | TIME AIRBORNE<br><i>17 45</i>                                             |                 | LOCATION<br><i>KMIA<br/>25 48.3 N<br/>080 17.6 W</i> |          | DATE<br><i>22<br/>Sept<br/>1978</i> |  | PROJ. NAME<br><i>LOCUS</i> |  |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------|---------------------------------|-------------------------------------------|-------------------|--------------------------------------------|------------------------|---------------------------------------------------------------------------|-----------------|------------------------------------------------------|----------|-------------------------------------|--|----------------------------|--|
| TIME OF ENTRY                                                                                                                             | POSITION                        | TYPE                       | INERTIAL POSITION               |                                           | LAT LON COR'S     | POSITION                                   | LAT LON COR'S          | REMARKS                                                                   |                 |                                                      |          |                                     |  |                            |  |
| <i>1735</i>                                                                                                                               | <i>25 48.3 N<br/>080 17.6 W</i> | <i>4</i>                   | <i>25 48.3 N<br/>080 17.5 W</i> |                                           | <i>0<br/>+0.1</i> | <del><i>25 48.3 N<br/>080 17.6 W</i></del> |                        | <i>BIK OUT KMIA.<br/>INS #2.</i>                                          |                 |                                                      |          |                                     |  |                            |  |
| <i>1745</i>                                                                                                                               | <i>25 48.0 N<br/>080 17.6 W</i> | <i>4</i>                   | <i>25 48.1 N<br/>080 17.9 W</i> |                                           |                   | <del><i>25 48.1 N<br/>080 17.9 W</i></del> |                        | <i>T/O KMIA.</i>                                                          |                 |                                                      |          |                                     |  |                            |  |
| <i>1818.09</i>                                                                                                                            |                                 | <i>9</i>                   | <i>26 51.3 N<br/>081 39.3 W</i> |                                           |                   |                                            |                        | <i>CID 1 PASS #1 AIT 3009<br/>R310/84 @ AIT 140</i>                       |                 |                                                      |          |                                     |  |                            |  |
| <i>182132</i>                                                                                                                             |                                 | <i>9</i>                   | <i>26 54.1 N<br/>081 39.4 W</i> |                                           |                   |                                            |                        | <i>CID 1 PASS #2<br/>R311/86 @ 160.5</i>                                  |                 |                                                      |          |                                     |  |                            |  |
| <i>182627</i>                                                                                                                             |                                 | <i>9</i>                   | <i>26 52.3 N<br/>081 40.3 W</i> |                                           |                   |                                            |                        | <i>CID 2 PASS #1 AIT 2992<br/>R310/85 @ 179.8</i>                         |                 |                                                      |          |                                     |  |                            |  |
| <i>184010</i>                                                                                                                             |                                 | <i>9</i>                   | <i>27 06.2 N<br/>082 12.0 W</i> |                                           |                   |                                            |                        | <i>OLD 3 PASS #1<br/>R306/116 @ 140.2</i>                                 |                 |                                                      |          |                                     |  |                            |  |
| <i>185542</i>                                                                                                                             |                                 | <i>9</i>                   | <i>27 16.3 N<br/>082 25.9 W</i> |                                           |                   |                                            |                        | <i>CID 4 PASS #1 AIT 2992<br/>MIA<br/>R306/132 @ 158.8</i>                |                 |                                                      |          |                                     |  |                            |  |
| <i>190538</i>                                                                                                                             |                                 | <i>9</i>                   | <i>26 53.7 N<br/>082 16.2 W</i> |                                           |                   |                                            |                        | <i>CID 5 PASS #1<br/>R310/28 1/2 FT Myers<br/>R300/112 MIA @ 160</i>      |                 |                                                      |          |                                     |  |                            |  |
| <i>191000</i>                                                                                                                             |                                 | <i>9</i>                   | <i>26 53.8 N<br/>082 15.4 W</i> |                                           |                   |                                            |                        | <i>CID 5 PASS #2 AIT 2992<br/>R311/28 FT Myers<br/>R300/117 MIA @ 160</i> |                 |                                                      |          |                                     |  |                            |  |
| <i>191410</i>                                                                                                                             |                                 | <i>9</i>                   | <i>26 55.2 N<br/>082 16.4 W</i> |                                           |                   |                                            |                        | <i>CID 5 PASS #3<br/>R314/29 1/2 FT Myers<br/>R300/113 MIA @ 172.5</i>    |                 |                                                      |          |                                     |  |                            |  |
| <i>191755</i>                                                                                                                             |                                 | <i>9</i>                   | <i>26 53.7 N<br/>082 15.7 W</i> |                                           |                   |                                            |                        | <i>CID 5 PASS #4<br/>R311/29 FT Myers<br/>R300/112 MIA @ 180.0</i>        |                 |                                                      |          |                                     |  |                            |  |
| <i>192208</i>                                                                                                                             |                                 | <i>9</i>                   | <i>26 56.3 N<br/>082 17.4 W</i> |                                           |                   |                                            |                        | <i>CID 5 PASS #5 AIT 2992<br/>R314/30<br/>R300/114 @ 180.0</i>            |                 |                                                      |          |                                     |  |                            |  |
| SYS                                                                                                                                       | BEGIN ALIGN TIME                | NCS CONN                   | Ω AID                           | TIME OUT OF COARSE ELAPSE ALIGN POST TIME | ALIGN STS 0-5     | (1) TIME INTO NAV.                         | (2) TIME OUT NAV.      | ΔT (2)(1)                                                                 | TERMINAL ERRORS |                                                      |          |                                     |  |                            |  |
|                                                                                                                                           |                                 |                            |                                 |                                           |                   |                                            |                        |                                                                           | LAT             | LONG                                                 | GS       |                                     |  |                            |  |
| <i>INS 1</i>                                                                                                                              | <i>1601</i>                     | <i>N</i>                   | <i>N</i>                        | <i>—</i>                                  |                   | <i>1654</i>                                | <i>2111</i>            | <i>4.2</i>                                                                | <i>+0.1</i>     | <i>0</i>                                             | <i>0</i> |                                     |  |                            |  |
| <i>INS 2 or IMU</i>                                                                                                                       | <i>1601</i>                     | <i>N</i>                   | <i>N</i>                        | <i>—</i>                                  |                   | <del><i>1654</i></del>                     | <del><i>2111</i></del> |                                                                           |                 |                                                      |          |                                     |  |                            |  |
| ALIGN REMARKS: <i>INS #2 Dropped off Line Code 911. Overheat in J1 Cap</i>                                                                |                                 |                            |                                 |                                           |                   |                                            |                        |                                                                           |                 |                                                      |          |                                     |  |                            |  |
| OTHER REMARKS:                                                                                                                            |                                 |                            |                                 |                                           |                   |                                            |                        |                                                                           |                 |                                                      |          |                                     |  |                            |  |
| TYPE OF FIX: (1) DR (2) RADIO (3) CELESTIAL (4) VISUAL (5) LORAN<br>(6) RADAR (7) DOPPLER (8) OMEGA (9) INERTIAL<br>(10) OMEGA - INERTIAL |                                 |                            |                                 |                                           |                   |                                            |                        |                                                                           |                 |                                                      |          |                                     |  |                            |  |

[illegible]

780922H LOCUS

National  
Oceanic &  
Atmospheric  
Administration

## FLIGHT PLAN

Research  
Facilities

Center

PROPOSED T.O. 1710

ACTUAL T.O. 1745

| TE | TO                                            | TEMP<br>ALT | IAS<br>TAS | TC  | VAR | MC  | W | V | TH | MH | GS  | Zone<br>Time | Total<br>Time | Total<br>Zone<br>Dist | Proposed<br>ETA | ETA<br>ATA |
|----|-----------------------------------------------|-------------|------------|-----|-----|-----|---|---|----|----|-----|--------------|---------------|-----------------------|-----------------|------------|
| 1  | KMIA<br>25 10.0N<br>080 17.6W                 | →           | 260        | 316 | 0   | 316 | L | V |    |    |     |              |               |                       |                 |            |
|    | L.O.                                          | →           | 260        | 316 | 0   | 316 | L | V |    |    | 260 | 109          | 1             | 40                    |                 |            |
|    | MARCO<br>26 00.0N<br>081 40.5W                |             |            | 260 |     | 316 | L | V |    |    | 260 | 108          |               | 38                    |                 |            |
|    | LABELLE MONTAC<br>N 26 49.7N<br>081 23.5W     |             |            | 316 |     | 316 |   |   |    |    |     |              |               | 28                    |                 |            |
|    |                                               |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
|    |                                               |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
|    |                                               |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
| 3  | TARPO.                                        |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
| 4  | BIMINI.                                       |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
| 5  |                                               |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
| 6  |                                               |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
|    | Blue Water R093/50<br>25 56.5N<br>079 32.5W   |             |            |     | +01 |     |   |   |    |    |     |              |               |                       |                 |            |
|    | 25 52.0N<br>078 27.0W                         |             |            |     | +01 |     |   |   |    |    |     |              |               |                       |                 |            |
|    | R150/110<br>24 23.0N<br>079 27.0W             |             |            |     | +01 |     |   |   |    |    |     |              |               |                       |                 |            |
|    | R150/50<br>25 15.0N<br>080 00.0W              |             |            |     | +01 |     |   |   |    |    |     |              |               |                       |                 |            |
| 7  | Palm Beach<br>26 41.2N<br>080 08.7W           |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
|    | Blue Water Center of<br>25 18.0N<br>079 11.0W |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
| 8  | ORTAN<br>25 47.8N<br>080 23.1W                |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
| 9  | MIA VORTAC<br>25 57.8<br>080 27.6             |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
| 2  | BSY 25 40.3N<br>080 10.7W                     |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |
|    | Freeport. VOR<br>26 33.0N<br>078 42.0W        |             |            |     |     |     |   |   |    |    |     |              |               |                       |                 |            |

ATC CLEARANCE:

ENROUTE CLEARANCES:

# FLIGHT PERFORMANCE LOG

DATE 22 SEPT '78  
MISSION LOCUS  
TIME OUT 1743

FLT. TECH. CONNOR / FENNEL  
A/C N42RE  
TIME RTN 2107

| SYSTEM                     | PRE-FLIGHT | IN-FLIGHT | POST-FLIGHT |  |
|----------------------------|------------|-----------|-------------|--|
| Nav. INE1                  | ✓          | ✓         |             |  |
| INE2                       | ①          | ①         |             |  |
| ONE                        | ✓          | ✓         |             |  |
| DOPL                       | NU         |           |             |  |
| Radar Nose                 | ✓          | ✓         |             |  |
| L-F                        | ✓          | ✓         |             |  |
| Tail                       | NI         |           |             |  |
| Data Syst.                 | ✓          | ✓         |             |  |
| RAMS                       | ✓          | ✓         |             |  |
| Sensors                    | ✓          | ✓         |             |  |
| Total Temp                 | ✓          | ✓         |             |  |
| Dewpoint                   | ✓          | ✓         |             |  |
| Attack Angle               | ✓          | ✓         |             |  |
| Slip Angle                 | ✓          | ✓         |             |  |
| Absolute Pressure          | ✓          | ✓         |             |  |
| Differential Press         | ✓          | ✓         |             |  |
| Radar Altitude             | ✓          | ✓         |             |  |
| J&W                        | ✓          | ✓         |             |  |
| PMS OAP-2DP                | ✓          | ✓         |             |  |
| OAP-2DC                    | ✓          | ✓         |             |  |
| FSSP                       | ✓          | ✓         |             |  |
| Data Syst.                 | ✓          | ✓         |             |  |
| IPC                        | ✓          | ✓         |             |  |
| Foil Impactor              | ②          | ②         |             |  |
| CO <sub>2</sub> Radiometer | ✓          | ✓         |             |  |
| Microwave Radiometer       | ✓          | ✓         |             |  |
| Surface Radiometer         | ✓          | ✓         |             |  |
| Formvar                    | ✓          | ✓         |             |  |
| Photography                | ✓          | ✓         |             |  |
| AXBT-- Tubes               | NU         |           |             |  |
| Receivers                  | NI         |           |             |  |
| ODW                        | NU         |           |             |  |
| Seeder                     | NU         |           |             |  |
| Gust Probe                 | NI         |           |             |  |
|                            |            |           |             |  |
|                            |            |           |             |  |
|                            |            |           |             |  |
|                            |            |           |             |  |

Code: ✓ - Operational; X(#) - Failure (note); NU - Not Used  
NI - Not Installed

Notes:

- ① NO BLOWER - TURNED INE<sup>2</sup> OFF. CBOOK  
② P.S. FAILURE

DMTR 2

DMTR 2

[illegible]

FLIGHT 78042H  
AIRCRAFT 42RT  
DATE 9/22/78  
DAY # 265

| TOTAL REELS |   |
|-------------|---|
| VTR         |   |
| DMTR 1      | 2 |
| DMTR 2      | 1 |

[illegible][illegible]

RFC-3 WORK FORM  
(7-76)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
RESEARCH FACILITIES CENTER  
MIAMI, FLORIDA

PHOTO - OPTICAL STATION

FLIGHT ID

780922H

DATE

22 SEPT '78

INSTRUCTIONS: Make all entries in pencil. At Flight Termination give completed form to the Flight Director.  
Mark all film cans with Flight ID, Type, and Number. All Times GMT (Z).

| CAMERA     | ON   | OFF  | ON | OFF | RATE  | FILM USED (FT.) |
|------------|------|------|----|-----|-------|-----------------|
| FOREWARD   | 1739 | 2108 |    |     | 2 SEC | ~200'           |
| RIGHT SIDE | 1739 | 2108 |    |     | 2 SEC | 200             |
| LEFT SIDE  | 1739 | 2108 |    |     | 2 SEC | 200'            |
| VERTICAL   | NI   |      |    |     |       |                 |
|            |      |      |    |     |       |                 |
|            |      |      |    |     |       |                 |
|            |      |      |    |     |       |                 |
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|            |      |      |    |     |       |                 |
|            |      |      |    |     |       |                 |
|            |      |      |    |     |       |                 |

## ELAPSED TIME COUNTERS

| DIGITAL | COUNTER | DIGITAL | COUNTER | DIGITAL | COUNTER |
|---------|---------|---------|---------|---------|---------|
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|         |         |         |         |         |         |

REMARKS:

\* U.S. GOVERNMENT PRINTING OFFICE: 1973-768-073

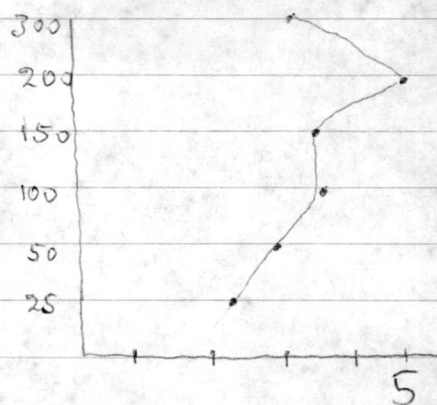
780922 I 43RF

takeoff ~ 1715 Z (1:15)

land too blocked up + disturbed for cloud penetrations  
will proceed to over water and do profiles

hazy thin cirrus from annals no direct sunlight

| time       | alt              | wind dir | speed |
|------------|------------------|----------|-------|
| ~82 ft     |                  |          |       |
| 1742       | 25m              | 93.8     | 2.5-  |
| 1743       | 23               | 71.      | 3.0   |
| 174350     | <del>50</del> 21 | 50       | 1.7   |
| 174426     | 24               | 47       | 1.5   |
| 1748       | 50               | 124      | 3.6   |
| 174835     | 47               | 105      | 1.8   |
| 174855     |                  | 108      | 2.6   |
| 174915     | 52               | 120      | 3.3   |
| 174935     | 54               | 108      | 3.2   |
| 1750       | 54               | 108      | 3.5   |
| 1753       | 100              | 95       | 4.1   |
| 175330     | 93               | 93       | 3.8   |
| 1754       | 96               | 101      | 3.5   |
| 175430     | 95               | 115      | 2.9   |
| 175750     | 150              | 150      | 3.5   |
| 175830     | 150              | 124      | 4.0   |
| 1759       | 157              | 141      | 3.2   |
| 175930     | 147              | 138      | 3.5   |
| 1800 climb |                  |          |       |
| 180310     | 195              | 130      | 4.6   |
| 180345     | 200              | 139      | 5.4   |
| 180430     | 200              | 137      | 4.9   |
| 180658     | 298              | 152      | 3.4   |
| 180735     | 288              | 139      | 1.9   |
| 1808       | 303              | 143      | 2.4   |
| 180810     | 295              | 148      | 2.6   |
| 180850     | 298              | 145      | 3.1   |



seaweed  
some ~~large~~ lumps were  
visible but didn't appear  
oriented in lines

Hdg. 246

hdg. 246

25.6N 79.63W

hdg. 85.

hdg. 266

hdg. 262 25.65 79.60

181015 Climbing to head for lake for cloud penetrations

all further 1st film preflights should be done on day before the flight  
possibly leaving equipment on the air craft

183218

cloud

location

26.54 N 80.73 W

50 m below cloud base

4 min 1-5 min under probable test cloud ~ 185130

at 185254 Ldg 199.4 <sup>WS</sup> 132 0.1

cloud too close to summit airport

1903 looking for another cloud

problem - clouds looking at are too close to head uncontrolled ~~in~~ ports

arr on E side of main shaft 1856 Hg 297

26.86 82.19 under cloud @ 192201

turn for next pass

192808 25.85 82.20

pass 193240 26.82 82.16

193330 26.85 82.21

194443 26.86 82.19

194920 26.84 82.16

WS WS hd  
301 2.5 305

WS WS  
16.7 1.8 26.296

Form I-2 Cloud Physics Project Scientist Operational CHECKLIST

DATE 9/22/78

AIRCRAFT 43RF

FLIGHT 780922I

A. INSTRUMENT STATUS AND PERFORMANCE

|                            | PreFlight      | InFlight | PostFlight | Remarks           | Data Units Collected |
|----------------------------|----------------|----------|------------|-------------------|----------------------|
| Johnson Williams           |                |          |            |                   |                      |
| Nimbiometer                |                |          |            |                   |                      |
| Lyman Alpha                |                |          |            |                   |                      |
| U. V.                      |                |          |            |                   |                      |
| dewpoint                   |                |          |            |                   |                      |
| Foil Impactor              |                |          |            |                   |                      |
| Formvar                    |                |          |            |                   |                      |
| Knollenberg                | ALL SYSTEMS OK |          |            | ONLY 2 DATA TAPES |                      |
| Raindrop                   |                |          |            |                   |                      |
| Cloud Droplet              |                |          |            |                   |                      |
| FSSP                       |                |          |            |                   |                      |
| Data System                |                |          |            |                   |                      |
| & Displays                 |                |          |            |                   |                      |
| Ice Particle Counter       |                |          |            |                   |                      |
| Mee                        |                |          |            |                   |                      |
| ERT                        |                |          |            |                   |                      |
| CO <sub>2</sub> Radiometer |                |          |            |                   |                      |
| Microwave Radiometer       |                |          |            |                   |                      |
| Aerosol                    |                |          |            |                   |                      |
| Filters                    |                |          |            |                   |                      |
| Bulk Water                 |                |          |            |                   |                      |
| INC                        |                |          |            |                   |                      |
| CCN                        |                |          |            |                   |                      |

B. REMARKS