

## E.2 Lead Project Scientist

### E.2.1 Preflight

- ☒ 1. Participate in general mission briefing.
- ☒ 2. Determine specific mission and flight requirements for assigned aircraft.
- ☒ 3. Determine from field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist unless briefed otherwise by field program director.
- ☒ 4. Contact HRD members of crew to:
  - a. Assure availability for mission.
  - b. Review filed program safety checklist
  - c. Arrange ground transportation schedule when deployed.
  - d. Determine equipment status.
- ☒ 5. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
- ☒ 5. Meet with AOC flight crew at least 2 hours before take-off for crew briefing. 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).
- ☒ 7. Before take-off, brief the on-board GPS dropsonde operator on times and positions of drop times.
- ☒ 8. Collect "mess" fee (\$2.00) from all on-board HRD flight crew members.

### 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.
- ☒ 5. Check in with the flight director to make sure the mission is going as planned (i.e. turns are made when they are supposed to be made).

### E.2.3 Post flight

- ☒ 1. Debrief scientific crew.
- ☒ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to MGOC.
- ☒ 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 MGOC as to where you can be contacted and arrange for any further coordination required.
- ☒ 7. Prepare written mission summary using form E-2 p.3 (due to Field Program Director 1 week after the flight).

# On-Board Lead Project Scientist Check List

Date 07/12/03 Aircraft N43RF Flight ID 031207 I

## A. Participants:

| HRD                    |                 | AOC                    |                    |
|------------------------|-----------------|------------------------|--------------------|
| Function               | Participant     | Function               | Participant        |
| Lead Project Scientist | <u>Aberson</u>  | Flight Director        | <u>Mayer</u>       |
| Cloud Physics          | <u>—</u>        | Pilots <u>Kennedy</u>  | <u>Silab</u>       |
| Radar                  | <u>Leighton</u> | Navigator              | <u>Brakob</u>      |
| Workstation            | <u>Leighton</u> | Systems Engineer       | <u>Wade</u>        |
| Photographer/Observer  | <u>—</u>        | Data Technician        | <u>Lyach</u>       |
| Omegasonde             | <u>Dunbar</u>   | Electronics Technician | <u>Sans Souci</u>  |
| AXBT/AXCP/Guest        | <u>Fogarty</u>  | Other <u>AVAPS</u>     | <u>Smith, Tong</u> |

Take-Off: \_\_\_\_\_ Location: MacDill  
 Landing: \_\_\_\_\_ Location: MacDill Number of Eye Penetrations: 0

## B. Past and Forecast Storm Locations:

| Date/Time      | Latitude    | Longitude   | MSLP           | Maximum Wind |
|----------------|-------------|-------------|----------------|--------------|
| <u>07/1500</u> | <u>21.3</u> | <u>68.0</u> | <u>1002 mb</u> | <u>40 kt</u> |
| <u>08/0000</u> | <u>23.5</u> | <u>65.5</u> |                | <u>35 kt</u> |
| <u>08/1200</u> | <u>26.0</u> | <u>62.0</u> |                | <u>35 kt</u> |
| <u>09/0000</u> | <u>29.5</u> | <u>56.5</u> |                | <u>35 kt</u> |
| <u>09/1200</u> | <u>33.0</u> | <u>50.0</u> |                | <u>35 kt</u> |

040/21

## C. Mission Briefing:

ET, Charlie Brown pattern, drop sender  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

D. Equipment Status (Up, Down, Not Available, Not Used)

| Equipment          | Pre-Flight | In-Flight | Post-Flight |
|--------------------|------------|-----------|-------------|
| Aircraft           | ✓          | ✓         | ✓           |
| Radar/LF           | ✓          | ✓         | ✓           |
| Radar/TA (Doppler) | ✓          | ✓         | ✓           |
| Cloud Physics      | ✓          | ✓         | ✓           |
| Data System        | ✓          | ✓         | ✓           |
| Omegasondes        | ✓          | ✓         | ✓           |
| AXBT/AXCP          | ✓          | ✓         | ✓           |
| Workstation        | ✓          | ✓         | ✓           |
| Videography        | ✓          | ✓         | ✓           |

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REMARKS: AOC SFMR working

# Lead Project Scientist Event Log

Date 07/12/03

Flight 031207I

LPS Aberson

| Time     | Event                | Position        | Comments                                     |
|----------|----------------------|-----------------|----------------------------------------------|
| 14:54:45 | Takeoff              | Mac Dill        | Clear and cold                               |
| 17:32:00 | right turn           |                 | belly radar just east                        |
| 17:32:33 | drop # 1             | 23° 27' 69° 25' | just behind front, bad telemetry             |
| 17:33:55 | drop # 1A backup     | 23° 21' 69° 20' |                                              |
| 17:37:00 | into convection      | 23° 12' 69° 06' |                                              |
| 17:38:30 | drop # 2             | 23° 8' 69° 2'   | just inside front, stronger convection ahead |
| 17:40:15 | drop # 2A backup     | 23° 3' 68° 55'  |                                              |
| 17:46:05 | left turn            | 22° 44' 68° 31' | near convection                              |
| 17:46:53 | drop # 3             | 22° 46' 68° 27' | just outside convection                      |
| 18:00:20 | right turn           | 23° 29' 67° 29' | hole in convection                           |
| 18:01:03 | drop # 4             | 23° 27' 67° 27' | just before cloud                            |
| 18:15:41 | turn left            | 22° 43' 66° 31' |                                              |
| 18:16:25 | drop # 5             | 22° 44' 66° 27' |                                              |
| 18:20:00 | convection           | 23° 0' 66° 0'   | Seat belt                                    |
| 18:30:28 | turn right, drop # 6 | 23° 30' 65° 25' |                                              |
| 18:35:00 | convection           | 23° 20' 65° 15' | Seat belt                                    |
| 18:38:00 | ascend 1000 ft       | 23° 5' 64° 56'  |                                              |
| 18:44:20 | turn right           | 22° 45' 64° 30' |                                              |
| 18:45:23 | drop # 7             | 22° 42' 64° 32' |                                              |
| 18:58:15 | turn right           | 22° 6' 65° 18'  |                                              |
| 19:01:38 | drop # 8             | 21° 59' 65° 30' |                                              |

### Lead Project Scientist Event Log

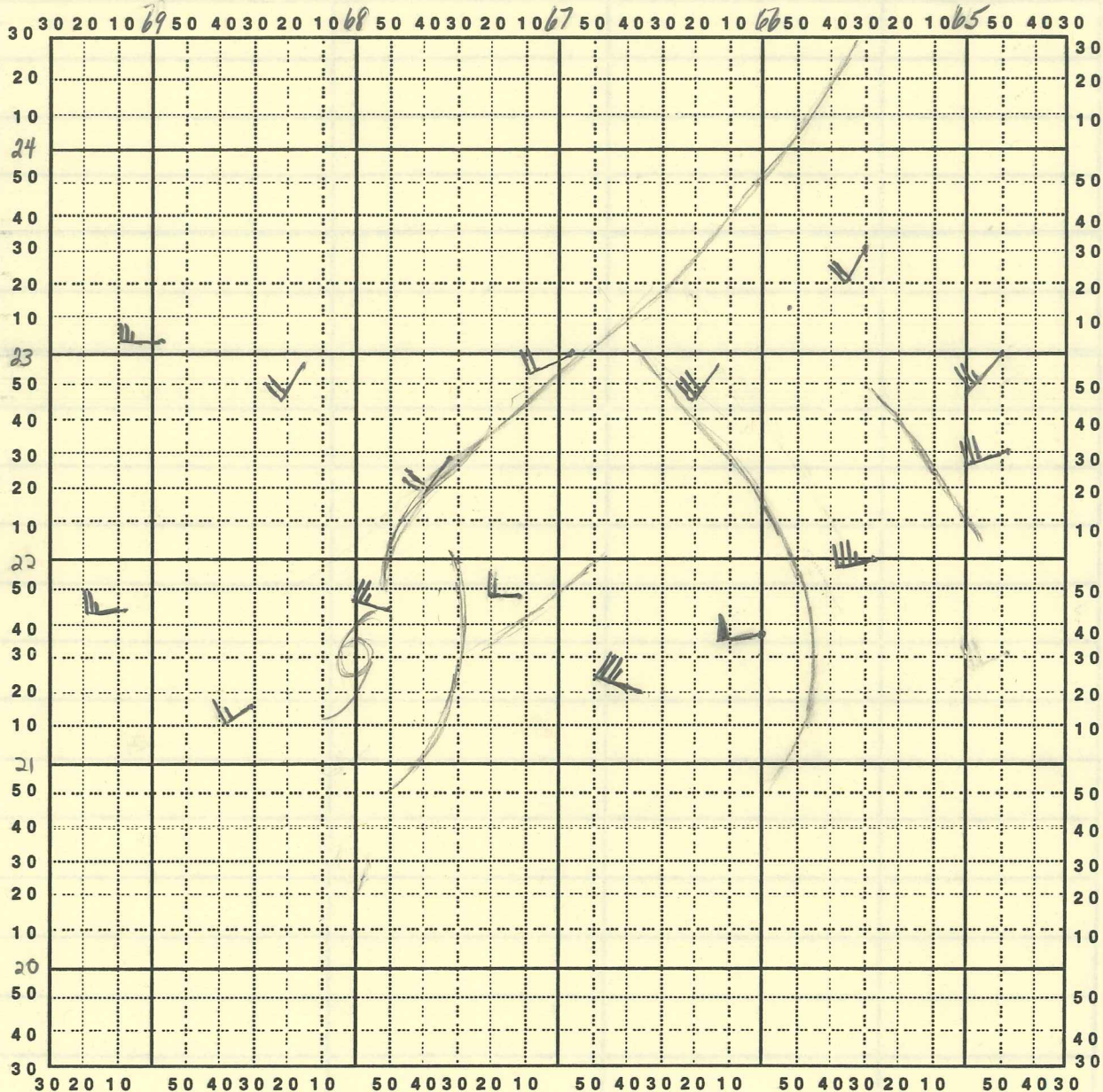
Date 07/12/03 Flight 031207I LPS Abersorn

[illegible]

# Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes

Date 7/12/03 Flight ID 031207I LPS Aber son



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

**Mission Summary**  
**Storm name**  
**YYMMDDA# Aircraft 4\_RF**

**Scientific Crew (4 RF)**

Lead Project Scientist Abramson  
Radar Scientist Leighton  
Cloud Physics Scientist —  
Dropwindsonde Scientist Dunson  
Boundary-Layer Scientist —  
Workstation Scientist Leighton  
Observers Fogarty

*Mission Briefing: (include sketch of proposed flight track or page #)*

*Mission Synopsis: (include plot of actual flight track)*

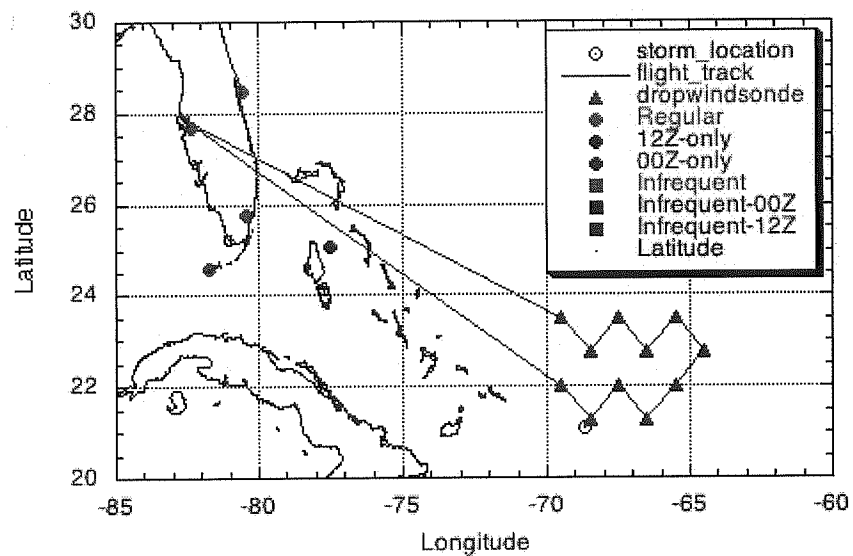
*Evaluation: (did the experiment meet the proposed objectives?)*

*Problems: (list all problems)*

HAPS did not work when clicked on sonde. Had to run manually in terminal

People need to be trained on use of new HAPS  
New HAPS needs to be fixed up with scrollbars.

03120711 ODETTIE ALT



## =====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: ODETTE/SYNOPTIC

NOAA/Hurricane Research Division Sunday, December 7, 2003 6:18:15 am  
Aircraft: N43RF Proposed takeoff: 07/1500Z  
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## TRACK DISTANCES

| #  | LAT<br>(d m) | LON<br>(d m) | RAD/AZM<br>(nm/dg) | LEG<br>(nm) | TOTAL<br>(nm) | TIME<br>(h:mm) |
|----|--------------|--------------|--------------------|-------------|---------------|----------------|
| 0  | MACDILL      |              |                    | 0.          | 0.            | 0:00           |
| 1  | 23 30        | 69 30        |                    | 786.        | 786.          | 3:16           |
| 2  | 22 45        | 68 30        |                    | 73.         | 859.          | 3:34           |
| 3  | 23 30        | 67 30        |                    | 73.         | 932.          | 3:53           |
| 4  | 22 45        | 66 30        |                    | 73.         | 1005.         | 4:11           |
| 5  | 23 30        | 65 30        |                    | 73.         | 1078.         | 4:29           |
| 6  | 22 45        | 64 30        |                    | 73.         | 1151.         | 4:47           |
| 7  | 22 00        | 65 30        |                    | 73.         | 1225.         | 5:06           |
| 8  | 21 15        | 66 30        |                    | 73.         | 1298.         | 5:24           |
| 9  | 22 00        | 67 30        |                    | 73.         | 1371.         | 5:42           |
| 10 | 21 15        | 68 30        |                    | 73.         | 1444.         | 6:01           |
| 11 | 22 00        | 69 30        |                    | 73.         | 1518.         | 6:19           |
| 12 | MACDILL      |              |                    | 823.        | 2340.         | 9:45           |

## =====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: ODETTE/SYNOPTIC

NOAA/Hurricane Research Division Sunday, December 7, 2003 6:18:15 am

Aircraft: N43RF

Proposed takeoff: 07/1500Z

## =====

DROP LOCATIONS

| #  | LAT<br>(d m) | LON<br>(d m) | RAD/AZM<br>(nm/dg) | TIME<br>(h:mm) |
|----|--------------|--------------|--------------------|----------------|
| 1  | 23 30        | 69 30        |                    | 3:16           |
| 2  | 22 45        | 68 30        |                    | 3:34           |
| 3  | 23 30        | 67 30        |                    | 3:53           |
| 4  | 22 45        | 66 30        |                    | 4:11           |
| 5  | 23 30        | 65 30        |                    | 4:29           |
| 6  | 22 45        | 64 30        |                    | 4:47           |
| 7  | 22 00        | 65 30        |                    | 5:06           |
| 8  | 21 15        | 66 30        |                    | 5:24           |
| 9  | 22 00        | 67 30        |                    | 5:42           |
| 10 | 21 15        | 68 30        |                    | 6:01           |
| 11 | 22 00        | 69 30        |                    | 6:19           |

| SONDE<br>ID | MISSION<br>NAME | LAUNCH<br>TIME | CH<br># | LAUNCH                   |                         | AC FL<br>PRESS<br>(mb) | AC FL<br>TEMP<br>(C) | AC FL<br>RH<br>(%) | AC FL<br>WIND<br>(m/s) | AC FL<br>WIND<br>(deg) | AC<br>ALT<br>(m) | Last<br>Press<br>(mb) | Last<br>Press<br>Time<br>(SEC) | Last<br>Wind<br>Dir<br>(deg) | Last<br>Wind<br>Speed<br>(m/s) | Last<br>Wind<br>Offset<br>(SEC) | Winds<br>Acquire<br>Time<br>(sec) | PTH<br>Data<br>Good<br>(%) | Wind<br>Data<br>Good<br>(%) | Temp                     |                      |                  |
|-------------|-----------------|----------------|---------|--------------------------|-------------------------|------------------------|----------------------|--------------------|------------------------|------------------------|------------------|-----------------------|--------------------------------|------------------------------|--------------------------------|---------------------------------|-----------------------------------|----------------------------|-----------------------------|--------------------------|----------------------|------------------|
|             |                 |                |         | DETECT<br>DELAY<br>(SEC) | DETECT<br>PIN<br>PULLED |                        |                      |                    |                        |                        |                  |                       |                                |                              |                                |                                 |                                   |                            |                             | Equil.<br>Delay<br>(sec) | Max<br>Wind<br>(m/s) | Max<br>RH<br>(%) |
| 3815304     | 0312071         | 173235.8       | 3       | 0.0                      | T                       | 517.30                 | -2.70                | 19.13              | 13.80                  | 248.20                 | 5571.5           | 555.74                | 37.1                           | -99.0                        | -99.00                         | -99.0                           | -99.9                             | 49.9                       | 0.0                         | 12.1                     | 0.0                  | 84.9             |
| 3815047     | 0312071         | 173354.4       | 4       | 0.0                      | T                       | 517.00                 | -2.70                | 64.84              | 12.30                  | 240.20                 | 5573.5           | 1007.46               | 425.5                          | 8.4                          | 14.17                          | -0.5                            | 81.0                              | 97.5                       | 87.4                        | 14.0                     | 16.4                 | 94.5             |
| 3815197     | 0312071         | 173831.8       | 1       | -99.9                    | F                       | 517.00                 | -2.70                | 0                  | 12.30                  | 240.20                 | 5573.5           | 1005.64               | 235.5                          | -99.0                        | -99.00                         | -99.0                           | -99.9                             | 80.7                       | 0.0                         | 11.5                     | 0.0                  | 94.7             |
| 3815046     | 0312071         | 174014.9       | 2       | 0.0                      | T                       | 517.00                 | -2.60                | 82.29              | 11.80                  | 275.30                 | 5577.4           | 1006.26               | 401.4                          | 0.3                          | 14.23                          | 0.0                             | 52.4                              | 94.2                       | 52.5                        | 14.4                     | 15.3                 | 96.2             |
| 3815308     | 0312071         | 174652.4       | 3       | 0.0                      | T                       | 517.30                 | -1.50                | 61.69              | 11.40                  | 225.40                 | 5578.3           | 1004.48               | 407.4                          | 345.5                        | 9.47                           | 0.0                             | 32.4                              | 98.3                       | 94.4                        | 16.4                     | 11.8                 | 100.0            |
| 3815044     | 0312071         | 180100.0       | 1       | 0.0                      | T                       | 517.00                 | -2.20                | 96.37              | 13.10                  | 210.70                 | 5583.5           | 1005.10               | 413.6                          | 182.9                        | 9.17                           | -1.0                            | 18.1                              | 95.5                       | 86.9                        | 15.1                     | 13.2                 | 94.9             |
| 3828019     | 0312071         | 181627.7       | 1       | 0.0                      | T                       | 517.50                 | -1.50                | 86.23              | 18.90                  | 227.90                 | 5572.3           | 1004.19               | 415.0                          | 148.2                        | 13.85                          | -0.5                            | 14.0                              | 88.8                       | 71.5                        | 18.0                     | 28.2                 | 100.0            |
| 3828021     | 0312071         | 183027.9       | 2       | 0.0                      | T                       | 517.60                 | -3.30                | 90.71              | 10.90                  | 217.90                 | 5569.6           | 1006.77               | 401.8                          | 160.4                        | 12.20                          | 0.0                             | 14.8                              | 96.7                       | 84.4                        | 14.8                     | 25.4                 | 100.0            |
| 3815045     | 0312071         | 184526.1       | 1       | 0.0                      | T                       | 494.40                 | -5.50                | 90.55              | 12.90                  | 240.70                 | 5937.1           | 1007.36               | 445.0                          | 169.0                        | 12.56                          | 1.0                             | 15.5                              | 98.9                       | 93.6                        | 13.0                     | 25.8                 | 94.8             |
| 3815301     | 0312071         | 190136.2       | 2       | 0.0                      | T                       | 494.10                 | -3.80                | 89.99              | 20.10                  | 263.00                 | 5935.9           | 1005.85               | 408.9                          | 170.6                        | 15.56                          | 1.0                             | 37.9                              | 96.4                       | 84.3                        | 15.4                     | 27.5                 | 96.4             |
| 3815307     | 0312071         | 191859.1       | 1       | 0.0                      | T                       | 494.50                 | -3.70                | 84.05              | 19.10                  | 280.40                 | 5928.6           | 1004.52               | 436.7                          | 178.5                        | 17.49                          | -0.5                            | 17.2                              | 96.3                       | 89.7                        | 18.2                     | 28.5                 | 95.9             |
| 3815048     | 0312071         | 193434.2       | 2       | 0.0                      | T                       | 494.40                 | -4.10                | 72.55              | 9.20                   | 256.20                 | 5930.9           | 1001.23               | 440.4                          | 247.8                        | 15.63                          | -0.5                            | 55.4                              | 96.4                       | 89.8                        | 13.9                     | 20.4                 | 97.5             |
| 3815306     | 0312071         | 194423.4       | 1       | 0.0                      | T                       | 453.50                 | -7.70                | 40.60              | 8.60                   | 292.90                 | 6610.5           | 1004.77               | 487.6                          | 283.6                        | 12.09                          | -0.5                            | 26.1                              | 96.2                       | 86.5                        | 18.6                     | 18.4                 | 100.0            |
| 345655      | 0312071         | 195034.3       | 2       | 0.0                      | T                       | 453.80                 | -6.70                | 30.04              | 7.70                   | 236.80                 | 6605.4           | 1006.07               | 476.6                          | 328.3                        | 15.87                          | -0.5                            | 106.1                             | 95.8                       | 88.6                        | 14.6                     | 18.7                 | 97.4             |
| 3815299     | 0312071         | 195223.9       | 3       | 0.0                      | T                       | 453.40                 | -6.40                | 5.60               | 8.60                   | 242.30                 | 6612.4           | 1006.29               | 495.7                          | 335.3                        | 16.87                          | 0.0                             | 80.7                              | 96.8                       | 86.4                        | 18.7                     | 19.1                 | 100.0            |
| 3815303     | 0312071         | 200513.5       | 1       | 0.0                      | T                       | 453.60                 | -8.60                | 8.55               | 12.90                  | 245.60                 | 6602.7           | 1007.10               | 481.1                          | -99.0                        | -99.00                         | -99.0                           | -99.9                             | 85.9                       | 0.0                         | 14.1                     | 0.0                  | 94.5             |
| 3828020     | 0312071         | 200828.6       | 2       | 0.0                      | T                       | 453.40                 | -8.20                | 8.80               | 16.40                  | 253.90                 | 6606.7           | 1007.65               | 504.6                          | 351.3                        | 14.50                          | 0.0                             | 37.1                              | 95.1                       | 54.6                        | 22.6                     | 17.2                 | 100.0            |