

## MSG 059 - BLUE FD06 MEIDEX OPS

### 1 MEIDEX Contingency Recording Plan

2 Until the DSR20 is recovered, we will be implementing an alternate recording philosophy to  
3 ensure that the Xybion video is recorded on the best possible digital recorder (the V10).

4 The FD05 Red team had to do some quick reconfigurations to record the Xybion video on  
5 the V10 (routed through MON 1). We asked them to disregard recording the Sekai Video.  
6 We would like you to continue in that configuration while we come up with a better plan.  
7 Sekai video can still be displayed on MON 2 for your reference. Steps and callouts that this  
8 impacts are shown below.

9 For any MEIDEX playbacks, we will be using P/TV C/L, DIGITAL PAO CC (FS 2-33)  
10 configurations.

11 We hope to have another plan available for Red FD06 operations that will allow recording of  
12 both the Xybion on the V10 and the Sekai on the PD100. These updates will come in the  
13 Red Execute Package.

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### 15 Step Changes for Blue FD06 operations

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#### 17 PTV 10 Deltas:

Configure video as follows:

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VID OUT pb – MON 1

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IN pb – XYBION (MD)

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OUT pb – MON 2

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IN pb – SEKAI/PAO (FD)

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OUT pb – ANALOG DNLK

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#### 24 PLOPS Deltas:

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26 MEIDEX SETUP (PLOPS):

Step 3: Check/replace tape for V10 only

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28 MEIDEX SCIENCE (PLOPS)

Step 2: Use MON 1 for Xybion TIME/DATE CHECK

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Step 5: Use MON 1 for Xybion parameter verifications

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Step 7: 1) Disregard L10/DSR20 steps

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2) On A7:

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√VID OUT pb – MON 1

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√IN pb – XYBION (FD)

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Step 11: Disregard VTR/DSR20 steps

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Step 12: Replace tape for V10 only

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Step 13: Take V10 PWR OFF, disregard VTR/L10  
steps

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**MSG 059 - BLUE FD06 MEIDEX OPS**

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**MEIDEX Catches 2 Sprites! First ever image of Sprites from space!**

4 Yesterday we inadvertently omitted the proper acronym for the ELVES that you captured:  
5 Dave actually caught not just an Elf, but an Emission of Light and Very low frequency  
6 perturbations due to EMP Sources. Congratulations!

7 Per Dr. Yoav Yair, the MEIDEX Coordinator and Project Scientist who happens to be  
8 celebrating his birthday today, this raw image was captured at MET 02/23:34:50 with the  
9 MEIDEX Xybion IMC-201 camera, on the filter 5 (665 nm). Yoav could not have wished for  
10 a better present! The image is upside down with the Earth on top. The bright line is the  
11 cloud top illuminated by an extremely powerful lightning ground stroke (usually a positive  
12 ground flash with a current exceeding 75,000 Ampers). The two "blotches" of light on the  
13 lower right hand side are Sprites, evolving within the same time frame (less than 33 msec)  
14 above the cloud. They are usually red in color, and reach altitudes of 65-80 km above the  
15 ground. Excited Nitrogen molecules cause the red color.  
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MSG 059 - BLUE FD06 MEIDEX OPS

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**Forecast for MEIDEX**  
Date: 20 Jan 2003

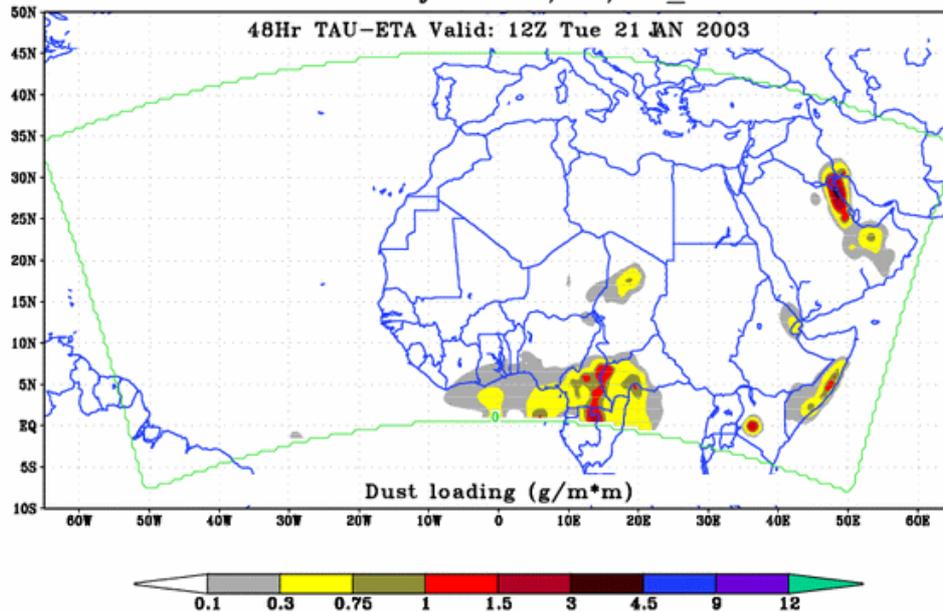
**General:** Over the following two days (20-21 January), the "Tunisian" cyclone will remain more or less stationary in the eastern Mediterranean. This will produce a lot of rain in Israel, mainly along the coastal plain.

This implies that no dust will be observed over the surroundings of Crete until 22 Jan at the earliest, and that the weather over Crete region will be cloudy with occasional rains. During the same period, the sky will become relatively clear (1-4 octas) to the South of Crete. The dust maps from both Tel Aviv and Skiron models show no dust plumes over the Mediterranean or over the Atlantic.

**Good news:** A major cyclonic system ("Yoav", hereafter) is expected to develop over western Europe and Mediterranean, with a potential to produce dust over the ROI around 24 Jan.

**Dust Map for 21 Jan 2003 12 UTC**

*Forecast from 19/01/03\_12*



GrADS: COLA/IGES

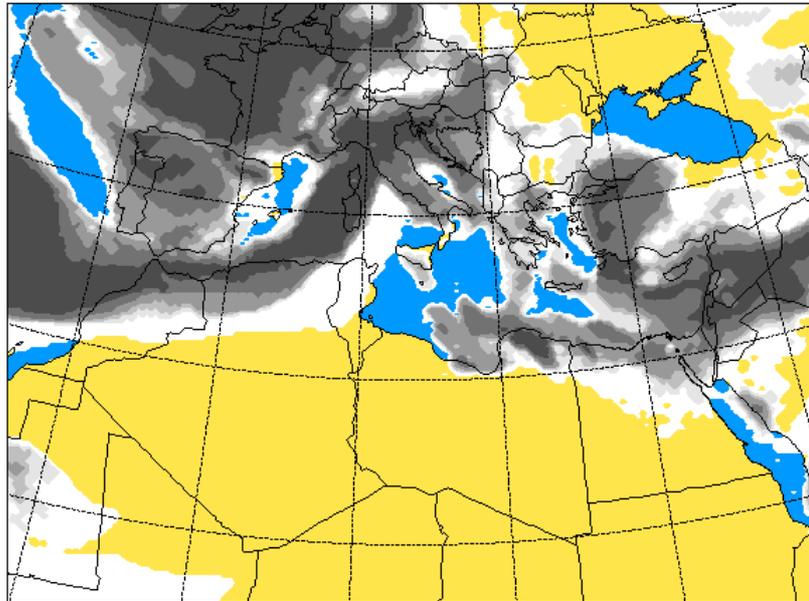
2003-01-20-00:48

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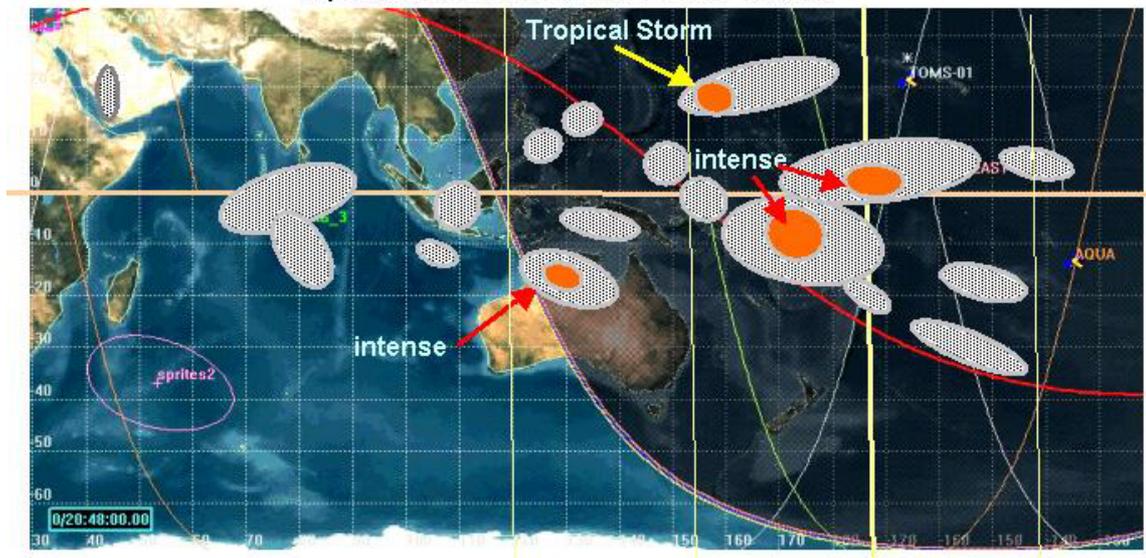
### Cloud Map for 21 Jan 2003 12 UTC

University of Athens (AM&WFG) SKIRON Forecast  
Cloud Cover 21.01.03 at 12 UTC



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### Sprite forecast for 20 Jan 2003 12 UTC



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**MSG 059 - BLUE FD06 MEIDEX OPS**

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 2 **MX Playback:** 04/23:20 – 04/23:55  
 3 **MX XFERS:** to be scheduled  
 4 **MX PGSC Setup Step 5:** to be scheduled  
 5 **Standalone Door Ops:** None  
 6 **Digital TV Instructions:** None

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 8 **Orbit # 76**  
 9 Observation type: Sea Surface (Mediterranean)  
 10 Dust plume width: None  
 11 Attitude: Nose forward  
 12 Airplane Support: None  
 13 Video: Live SSV; Recorded on VTR and V10  
 14 Special Instructions: If cloud coverage >25 %, do NOT record in PLD VCR. Continue recording in  
 15 crew cabin only. Orbit may pass over land and sea: stop PLD VCR  
 16 recording during extended periods over land.  
 17 **Violations:** **None**  
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| Start    | Procedure      | Instructions                      | R/NR       | CMD         | Notes  |
|----------|----------------|-----------------------------------|------------|-------------|--|
| 04/15:40 | MEIDEX SETUP   | Step 4 (TLM Config)               | REQ        | POCC        |  |
|          |                | Step 5 (Event Log Config)         | REQ        | POCC        |  |
|          |                | Step 6 (PLD VCR Act.)             | REQ        | POCC        | VCR = 3  |
|          |                | Step 7 (Sekai Activation)         | REQ        | POCC        |  |
| 04/16:15 | MEIDEX SETUP   | <b>Step 1 (Timer Setup)</b>       | <b>REQ</b> | <b>Crew</b> |  |
|          |                | <b>Step 2 (PTV Check)</b>         | <b>REQ</b> | <b>Crew</b> |  |
|          |                | <b>Step 3 (Tape Verification)</b> | <b>REQ</b> | <b>Crew</b> |  |
| 04/16:00 | XYBION ACT     | Step 1 (Xybion Powerup)           | REQ        | POCC        |  |
|          |                | Step 2 (Time/Date Config)         | REQ        | POCC        |  |
| 04/16:10 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config)           | REQ        | POCC        | Setup = ROI  |
|          |                | Step 6 (Truss Pntg Config)        | REQ        | POCC        | Truss = 0  |
| 04/16:25 | MEIDEX SCIENCE | <b>Step 1 (Xyb Pwr Check)</b>     | <b>REQ</b> | <b>Crew</b> |  |
|          |                | <b>Step 2 (Xyb T/D Check)</b>     | <b>REQ</b> | <b>Crew</b> |  |
|          |                | <b>Step 3 (Door Open)</b>         | <b>REQ</b> | <b>Crew</b> | <b>NLT 04/16:33</b>  |
|          |                | Step 4 (Xyb Cam Config)           | NR         | --          | Already cmded  |
|          |                | <b>Step 5 (Mon 2 Checks)</b>      | <b>REQ</b> | <b>Crew</b> | <b>Setup = ROI</b>   |
|          |                | Step 6 (Truss Pntg Config)        | NR         | --          | Already cmded  |
|          |                | <b>Step 7 (In Cabin Record)</b>   | <b>REQ</b> | <b>Crew</b> | <b>No Downlink</b>   |
| 04/16:38 | T Time         | <b>Step 8 (PLD VCR act)</b>       | <b>REQ</b> | <b>Crew</b> | <b>VCR = 3</b>   |
|          |                | <b>Step 9 (Observation)</b>       | <b>REQ</b> | <b>Crew</b> | <b>Do not record on PLD VCRs during extended periods over land</b> |
| 04/16:42 | MEIDEX SCIENCE | <b>Step 10 (PLD VCR Stop)</b>     | <b>REQ</b> | <b>Crew</b> | <b>NLT 04/16:43</b>  |
|          |                | <b>Step 11 (In Cabin Stop)</b>    | <b>REQ</b> | <b>Crew</b> |  |
|          |                | Step 12 (PTV PWRDN)               | NR         | --          |  |
|          |                | Step 13 (Door Close)              | NR         | --          |  |
|          |                | Step 14 (PLD VCR Swap)            | NR         | --          |  |
|          |                | <b>Step 15 (Status Check)</b>     | <b>REQ</b> | <b>Crew</b> |  |
|          |                | <b>Step 16 (Truss Reconfig)</b>   | <b>REQ</b> | <b>Crew</b> |  |

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**MSG 059 - BLUE FD06 MEIDEX OPS**

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**Orbit # 76**

Observation type: Sprite  
 Storm Center: 10S, 180E  
 Attitude: Nose to earth  
 Video: Live Analog downlink; Recorded on VTR and V10  
 Special Instructions: Direct Xybion FOV to Lightning activity. Use Filter 6. Major thunderstorms are expected in Northern Australia & Borneo.  
**Violations: None**

| Start    | Procedure      | Instructions               | R/NR | CMD  | Notes   |
|----------|----------------|----------------------------|------|------|---|
| 04/17:05 | MEIDEX SCIENCE | Step 1 (Xyb Pwr Check)     | REQ  | Crew |   |
|          |                | Step 2 (Xyb T/D Check)     | REQ  | Crew |   |
|          |                | Step 3 (Door Open)         | NR   | --   |   |
|          |                | Step 4 (Xyb Cam Config)    | REQ  | Crew | Setup = Sprite<br>*Use Filter 6                 |
|          |                | Step 5 (Mon 2 Checks)      | REQ  | Crew | Setup = Sprite                                  |
|          |                | Step 6 (Truss Pntg Config) | NR   | --   |   |
|          |                | Step 7 (In Cabin Record)   | REQ  | Crew | Analog Dnlk                                     |
|          |                | Step 8 (PLD VCR act)       | NR   | --   |   |
| 04/17:21 | T Time         | Step 9 (Observation)       | REQ  | Crew | Direct Xybion towards lightning activity as req |
| 04/17:50 | MEIDEX SCIENCE | Step 10 (PLD VCR Stop)     | NR   | --   |   |
|          |                | Step 11 (In Cabin Stop)    | REQ  | Crew |   |
|          |                | Step 12 (PTV PWRDN)        | NR   | --   |   |
|          |                | Step 13 (Door Close)       | NR   | --   |   |
|          |                | Step 14 (PLD VCR Swap)     | NR   | --   |   |
|          |                | Step 15 (Status Check)     | REQ  | Crew |   |
|          |                | Step 16 (Truss Reconfig)   | REQ  | Crew |   |

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**MSG 059 - BLUE FD06 MEIDEX OPS**

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**Orbit # 77**

Observation type: Sea Surface (Mediterranean)  
 Dust plume width: None  
 Attitude: Nose forward  
 Airplane Support: None  
 Video: Live SSV; Recorded on VTR and V10  
 Special Instructions: If cloud coverage >25 %, do NOT record in PLD VCR. Continue recording in crew cabin only. Orbit may pass over land and sea: stop PLD VCR recording during extended periods over land.

**Violations: None**

| Start    | Procedure      | Instructions               | R/NR | CMD  | Notes  |
|----------|----------------|----------------------------|------|------|--|
| 04/17:55 | MEIDEX SCIENCE | Step 1 (Xyb Pwr Check)     | REQ  | Crew |  |
|          |                | Step 2 (Xyb T/D Check)     | REQ  | Crew |  |
|          |                | Step 3 (Door Open)         | NR   | --   |  |
|          |                | Step 4 (Xyb Cam Config)    | REQ  | Crew | Setup = ROI  |
|          |                | Step 5 (Mon 2 Checks)      | REQ  | Crew | Setup = ROI  |
|          |                | Step 6 (Truss Pntg Config) | NR   | --   | Already cmded  |
|          |                | Step 7 (In Cabin Record)   | REQ  | Crew | No Downlink  |
|          |                | Step 8 (PLD VCR act)       | REQ  | Crew | VCR 3  |
| 04/18:10 | T Time         | Step 9 (Observation)       | REQ  | Crew | Do not record PLD VCRs over extended periods of land |
| 04/18:16 | MEIDEX SCIENCE | Step 10 (PLD VCR Stop)     | REQ  | Crew | NLT 04/18:17   |
|          |                | Step 11 (In Cabin Stop)    | REQ  | Crew |  |
|          |                | Step 12 (PTV PWRDN)        | NR   | --   |  |
|          |                | Step 13 (Door Close)       | NR   | --   |  |
|          |                | Step 14 (PLD VCR Swap)     | NR   | --   |  |
|          |                | Step 15 (Status Check)     | REQ  | Crew |  |
|          |                | Step 16 (Truss Reconfig)   | REQ  | Crew |  |

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**MSG 059 - BLUE FD06 MEIDEX OPS**

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**Orbit # 77**

Observation type: Sprite  
 Storm Center: **0 S 180 W**  
 Attitude: Nose to earth  
 Video: Live SSV; Recorded on VTR and V10  
 Special Instructions: Direct Xybion FOV to Lightning activity. Use Filter 6. Major thunderstorms are expected in Northern Australia & East of Borneo  
 Violations: **None**

| Start    | Procedure      | Instructions               | R/NR | CMD  | Notes  |
|----------|----------------|----------------------------|------|------|--|
| 04/18:30 | MEIDEX SCIENCE | Step 1 (Xyb Pwr Check)     | REQ  | Crew |  |
|          |                | Step 2 (Xyb T/D Check)     | REQ  | Crew |  |
|          |                | Step 3 (Door Open)         | NR   | --   |  |
|          |                | Step 4 (Xyb Cam Config)    | REQ  | Crew | Setup = Sprite<br>*Use Filter 6                  |
|          |                | Step 5 (Mon 2 Checks)      | REQ  | Crew | Setup = Sprite                                   |
|          |                | Step 6 (Truss Pntg Config) | NR   | --   |  |
|          |                | Step 7 (In Cabin Record)   | REQ  | Crew | No Downlink                                      |
|          |                | Step 8 (PLD VCR act)       | NR   | --   |  |
| 04/18:51 | T Time         | Step 9 (Observation)       | REQ  | Crew | Direct Xybion towards lightning activity as reqd |
| 04/19:20 | MEIDEX SCIENCE | Step 10 (PLD VCR Stop)     | NR   | --   |  |
|          |                | Step 11 (In Cabin Stop)    | REQ  | Crew |  |
|          |                | Step 12 (PTV PWRDN)        | NR   | --   |  |
|          |                | Step 13 (Door Close)       | NR   | --   |  |
|          |                | Step 14 (PLD VCR Swap)     | NR   | --   |  |
|          |                | Step 15 (Status Check)     | REQ  | Crew |  |
|          |                | Step 16 (Truss Reconfig)   | REQ  | Crew |  |

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**MSG 059 - BLUE FD06 MEIDEX OPS**

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**Orbit # 78**

Observation type: Sea Surface (Mediterranean)  
 Dust plume width: None  
 Attitude: Nose forward  
 Airplane Support: Yes. Northwest of Crete.  
 Video: Live SSV; Recorded on VTR and V10  
 Special Instructions: If cloud coverage >25 %, do NOT record in PLD VCR. Continue recording in crew cabin only. Orbit may pass over land and sea: stop PLD VCR recording during extended periods over land.

**Violations: RAM at 19:56**

| Start    | Procedure      | Instructions               | R/NR | CMD  | Notes   |
|----------|----------------|----------------------------|------|------|---|
| 04/19:30 | MEIDEX SCIENCE | Step 1 (Xyb Pwr Check)     | REQ  | Crew |   |
|          |                | Step 2 (Xyb T/D Check)     | REQ  | Crew |   |
|          |                | Step 3 (Door Open)         | NR   | --   |   |
|          |                | Step 4 (Xyb Cam Config)    | REQ  | Crew | Setup = ROI   |
|          |                | Step 5 (Mon 2 Checks)      | REQ  | Crew | Setup = ROI   |
|          |                | Step 6 (Truss Pntg Config) | REQ  | Crew | Truss = 0   |
|          |                | Step 7 (In Cabin Record)   | REQ  | Crew | No Downlink   |
|          |                | Step 8 (PLD VCR act)       | REQ  | Crew | VCR = 3   |
| 04/19:44 | T Time         | Step 9 (Observation)       | REQ  | Crew | Do not record on PLD VCRs during extended periods over land     |
| 04/19:52 | MEIDEX SCIENCE | Step 10 (PLD VCR Stop)     | REQ  | Crew | NLT 04/19:53<br>Disable AUTOTLM;<br>notify MCC, go for POCC cmd |
|          |                | Step 11 (In Cabin Stop)    | REQ  | Crew |   |
|          |                | Step 12 (PTV PWRDN)        | NR   | --   |   |
|          |                | Step 13 (Door Close)       | REQ  | Crew | NLT 04/19:54  |
|          |                | Step 14 (PLD VCR Swap)     | NR   | --   |   |
|          |                | Step 15 (Status Check)     | REQ  | POCC |   |
| 04/19:55 | MX CLOSEOUT    | Step 16 (Truss Reconfig)   | REQ  | POCC |   |
| 04/19:55 | MX CLOSEOUT    | Step 3 (Xybion Deact)      | REQ  | POCC |   |
| 04/19:56 | RAM Violation  | Door must be closed        |      |      |   |

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**MSG 059 - BLUE FD06 MEIDEX OPS**

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**Orbit # 79**

Observation type: Dust (Mediterranean)  
 Dust plume width: None  
 Attitude: Nose forward  
 Airplane Support: None  
 Video: Live SSV; Recorded on VTR and V10  
 Special Instructions: If cloud coverage >25 %, do NOT record in PLD VCR. Continue recording in crew cabin only. Orbit may pass over land and sea: stop PLD VCR recording during extended periods over land.

**Violations: RAM at 04/21:41**

| Start    | Procedure            | Instructions                    | R/NR       | CMD         | Notes  |
|----------|----------------------|---------------------------------|------------|-------------|--|
| 04/20:55 | XYBION ACT           | Step 1 (Xybion Powerup)         | REQ        | POCC        |  |
|          |                      | Step 2 (Time/Dat Config)        | REQ        | POCC        |  |
| 04/21:00 | MEIDEX SCIENCE       | Step 4 (Xyb Cam Config)         | REQ        | POCC        | Setup = ROI  |
|          |                      | Step 6 (Truss Pntg Config)      | REQ        | POCC        | Truss = 0  |
| 04/21:05 | MEIDEX SCIENCE       | <b>Step 1 (Xyb Pwr Check)</b>   | <b>REQ</b> | <b>Crew</b> |  |
|          |                      | <b>Step 2 (Xyb T/D Check)</b>   | <b>REQ</b> | <b>Crew</b> |  |
|          |                      | <b>Step 3 (Door Open)</b>       | <b>REQ</b> | <b>Crew</b> | <b>NLT 04/21:14</b>  |
|          |                      | Step 4 (Xyb Cam Config)         | NR         | --          | Already cmded  |
|          |                      | <b>Step 5 (Mon 2 Checks)</b>    | <b>REQ</b> | <b>Crew</b> | <b>Setup = ROI</b>   |
|          |                      | Step 6 (Truss Pntg Config)      | NR         | --          | Already cmded  |
|          |                      | <b>Step 7 (In Cabin Record)</b> | <b>REQ</b> | <b>Crew</b> | <b>No Downlink</b>   |
|          |                      | <b>Step 8 (PLD VCR act)</b>     | <b>REQ</b> | <b>Crew</b> | <b>VCR = 3</b>   |
| 04/21:19 | T Time               | Step 9 (Observation)            | REQ        | Crew        | Do not record on PLD VCRs during extended periods over land  |
| 04/21:23 | MEIDEX SCIENCE       | Step 10 (PLD VCR Stop)          | REQ        | Crew        | NLT 04/21:24<br>Disable AUTOTLM; notify MCC, go for POCC cmd |
|          |                      | Step 11 (In Cabin Stop)         | REQ        | Crew        |  |
|          |                      | Step 12 (PTV PWRDN)             | REQ        | Crew        |  |
|          |                      | Step 13 (Door Close)            | REQ        | Crew        | NLT 04/21:39   |
|          |                      | Step 14 (PLD VCR Swap)          | NR         | --          |  |
|          |                      | Step 15 (Status Check)          | REQ        | POCC        |  |
|          |                      | Step 16 (Truss Reconfig)        | REQ        | POCC        |  |
| 04/21:25 | MX CLOSEOUT          | Steps 1-4                       | REQ        | POCC        |  |
| 04/21:41 | <b>RAM Violation</b> | <b>Door must be closed</b>      |            |             |  |
|          | MX CLOSEOUT          | Step 5 (File Transfer)          | REQ        | Crew        |  |
|          | MX PGSC SETUP        | Step 5 (MX TLM Config)          | REQ        | Crew        |  |

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