Payload 3 Daily Flight Report

Date: 2021-08-27
Flight Campaign ID: P3C1
Airport, FBO ID, City: Tucson International Airport (KTUS) - Tucson, AZ, Las Cruces International (KLRU) - Las Cruces, NM
Aircraft: N615AR

Domain: 14 (Desert Southwest)
Sites Flown: JORN_P1 (Jornada Priority 1), JORN_P2 (Jornada Priority 2)
Days left in Domain: 12

Report Author: Elissa Barris
Lidar Operators: Elissa Barris
Spectrometer Operators: Abe Morrison
Pilots: Stephen Brawders, Vince Maarschalkerweerd

Flight Hours: 01:31:00, 03:02:00
Hours until maintenance: 40.83
GPS Instruments: 06 - KTUS, AOP_JORN

Summary
Another early start today! Although shorter than yesterday's, a green window at JORN allowed us to finish collection of the Priority 1 box and just start on Priority 2 before being pushed out by clouds.

Concerns
- The MIDAS1 disk that failed yesterday in the Hotel Kit was tested in the plane this morning, and was unreadable there as well. Attempts to recover data from the disk failed.
- Disk Set 1 will be pulled from rotation; Disk Set 5 will be put back into rotation.
- Flight 2021082415_P3C1 will have to be reflown. Lost data comprise 12 lines of the SRER P1 box and all of the SRER P2 box. The coverage report below has been updated to reflect this.

Comments
- At KLRU Las Cruces, we stopped at an alternate FBO since equipment was damaged by the GPU we used yesterday. We had no issues with today's GPU.
- After flights, we ran diagnostics on the AXE with the lab and confirmed that it is functioning normally apart from the fried ammeters. We will be able to continue using it through the end of this flight season.

Daily Coverage
Estimated Cloud Cover Key

<table>
<thead>
<tr>
<th>Green: 0-10%</th>
<th>Yellow: 11-50%</th>
<th>Red: &gt;50%</th>
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D14 | JORN_P1

<table>
<thead>
<tr>
<th>Line #</th>
<th>27</th>
<th>28</th>
<th>29</th>
<th>30</th>
<th>31</th>
<th>32</th>
<th>33</th>
<th>34</th>
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<tbody>
<tr>
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<td>✓</td>
<td>✓</td>
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<td>Camera</td>
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Cloud Cover

Total number of lines flown: 8
D14|JORN_P2

<table>
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<th>Line #</th>
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<th>37</th>
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</thead>
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<td>✓</td>
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<tr>
<td>Spectrometer</td>
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<td>Camera</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Cloud Cover</td>
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Total number of lines flown: 2

Flight Screenshots

NIS JORN_P1

LiDAR JORN_P1

NIS JORN_P2

LiDAR JORN_P2
A crop duster treating mesquite below the Twin Otter at the Jornada Experimental Range (Elissa).

**Cumulative Domain Coverage**

**D14|JORN_P1 (Jornada Priority 1)**

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Flown: 100% (34/34)
Green: 100% (34/34)
Yellow: 0% (0/34)
Red: 0% (0/34)

**D14|JORN_P2 (Jornada Priority 2)**

| 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |

Flown: 14% (3/21)
Green: 10% (2/21)
Yellow: 5% (1/21)
Red: 0% (0/21)

**D14|SRER_P1 (Santa Rita Experimental Range Priority 1)**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

Flown: 100% (40/40)
Green: 100% (40/40)
Yellow: 0% (0/40)
Red: 0% (0/40)
D14 | SRER_P2 (Santa Rita Experimental Range Priority 2)

Flown: 100% (24/24)
Green: 100% (24/24)
Yellow: 0% (0/24)
Red: 0% (0/24)

D14 | SRER_P3 (Santa Rita Experimental Range Priority 3)

Flown: 54% (14/26)
Green: 46% (12/26)
Yellow: 8% (2/26)
Red: 0% (0/26)

Weather Forecast

Vail, AZ (SRER)

Hatch, NM (JORN)

source: wunderground.com
Flight Collection Plan for 28 August 2021

Flyority 1
Collection Area: Santa Rita Experimental Range (SRER) – Priority 1 Box
Flight Plan Name: D14_SRER_C1_P1_v4_Q780
On-station Time: 16:10 UTC / 09:10 L

Flyority 2
Collection Area: Santa Rita Experimental Range (SRER) – Priority 2 Box
Flight Plan Name: D14_SRER_C1_P2_v5_Q780
On-station Time: 16:10 UTC / 09:10 L

Flyority 3
Collection Area: Santa Rita Experimental Range (SRER) – Priority 3 Box
Flight Plan Name: D14_SRER_C1_P3_v5_Q780
On-station Time: 16:10 UTC / 09:10 L

Flyority 4
Collection Area: Jornada (JORN) – Priority 1 Flight Box– Priority 2 Box
Flight Plan Name: D14_JORN_R1_P2_v4_Q780
On-station Time: 16:00 UTC / 09:00 L

Crew: Abe and Elissa