Payload 1 Daily Flight Report

Date: 2021-10-11  
Flight Campaign ID: P1C2  
Airport, FBO ID, City: Boulder Municipal Airport (KBDU) - Boulder, CO  
Aircraft: N331AR

Domain: 00 (Calibration)  
Sites Flown: N10F, R10E  
Days left in Domain: 07

Report Author: Abe Morrison  
Lidar Operators: Abe Morrison  
Spectrometer Operator: Elissa Barris  
Ground Crew: Mitch Haynes  
Pilots: Justin Eddington, Stephen Brawders

Flight Hours: 03:36  
Hours until maintenance: 5.27  
GPS Instruments: AOP-KBDU

Summary
Clear skies early this morning allowed the crew to start the nominal runway flight plan while waiting for solar angle for the radiometric calibration flight plan. Just after 35deg solar angle, the radiometric flight plan was flown 2 times in a row in “green” sky conditions. The nominal runway plan was then finished during the same flight.

Concerns
- The getter ION pump had several issues on the flight today in conjunction with a slight change in chamber pressure. The chamber never went out of specification and the issues seems to have been resolved with a power cycle. HQ lab staff is aware of the issue.
- The database would not generate the daily report today.

Comments
- The radiometric calibration flight and the nominal runway flight were finished today.
- Mechanics from Twin Otter arrived this afternoon and began the 125hr inspections. This maintenance process should conclude sometime tomorrow.

Cumulative Domain Coverage

| D00|B10F (Complete Greeley Boresight Geocalibration - 1500m, 1000m, 550m - Galaxy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Flown: 0% (0/20) |
| Green: 0% (0/20) |
| Yellow: 0% (0/20) |
| Red: 0% (0/20) |
D00|BLKF (Black Forest Waveform Range Test - Galaxy)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |

Flown:   0% (0/21)
Green:   0% (0/21)
Yellow:   0% (0/21)
Red:   0% (0/21)

D00|D10C

| 1 | 2 |

Flown:   0% (0/2)
Green:   0% (0/2)
Yellow:   0% (0/2)
Red:   0% (0/2)

D00|H10D (NEON Headquarters Lidar Validation - Galaxy)

| 1 | 2 | 3 | 4 |

Flown:   0% (0/4)
Green:   0% (0/4)
Yellow:   0% (0/4)
Red:   0% (0/4)

D00|N10F (Nominal Runway at KBDU - Galaxy)

| 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 |

Flown:   0% (0/35)
Green:   0% (0/35)
Yellow:   0% (0/35)
Red:   0% (0/35)

D00|O10C (NIS Offset - Galaxy)

| 1 | 2 |

Flown:   0% (0/2)
Green:   0% (0/2)
Yellow:   0% (0/2)
Red:   0% (0/2)

D00|R10E (Table Mountain Radiometric Calibration - Galaxy)

| 1 | 2 | 3 | 4 | 5 |

Flown:   0% (0/5)
Green:   0% (0/5)
Yellow:   0% (0/5)
Red:   0% (0/5)

D00|R10F (Boulder Airport Radiometric Calibration - Galaxy)

| 1 | 2 | 3 | 4 | 5 |

Flown:   0% (0/5)
Green:   0% (0/5)
Yellow:   0% (0/5)
Red:   0% (0/5)
D00|W10D (Wiggle Timing Test - Galaxy)

Flown: 0% (0/2)
Green: 0% (0/2)
Yellow: 0% (0/2)
Red: 0% (0/2)

**Screenshots**

Lidar

N10F

R10E

Lidar not collected in this plan

**Weather Forecast**

_Boulder, CO (KBDU)_

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<table>
<thead>
<tr>
<th>Tue 10/12</th>
<th>Wed 10/13</th>
<th>Thu 10/14</th>
<th>Fri 10/15</th>
<th>Sat 10/16</th>
<th>Sun 10/17</th>
<th>Mon 10/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>57°</td>
<td>58°</td>
<td>48°</td>
<td>50°</td>
<td>69°</td>
<td>69°</td>
<td>00°</td>
</tr>
<tr>
<td>Partly Cloudy</td>
<td>Sunny</td>
<td>PM Rain</td>
<td>Sunny</td>
<td>Sunny</td>
<td>Mostly Sunny</td>
<td>Party Cloudy</td>
</tr>
</tbody>
</table>
Flight Collection Plan for 12 October 2021

Flyority 1
**Collection Area:** Boresight Calibration – Greeley, CO  
Flight Plan Name: D10_B10F_Boresight_Geocal_v8_PRM  
On-station Time: 16:10 UTC / 10:10 L

Flyority 2
**Collection Area:** Wiggle Timing Test  
Name: D10_W10D_Wiggle_Test_v5_PRM  
On-Station Time: 17:40 UTC / 11:40 L

Flyority 3
**Collection Area:** NEON HQ Lidar Validation  
Flight Plan Name: D10_H10D_HQ_Lidar_validation_v1_PRM  
On-Station Time: Daylight – No solar angle restrictions.

Flyority 4
**Collection Area:** Boulder Airport Radiometric Calibration  
Flight Plan Name: D10_R10F_Radiometric_Cal_KBDU_v1_PRM  
On-Station Time: 17:40 UTC / 11:40 L

Flyority 5
**Collection Area:** NIS Offset Flight  
Flight Plan Name: D10_O10C_NIS_Offset_v2_PRM  
On-Station Time: 16:50 UTC / 10:50 L

Flyority 6
**Collection Area:** Black Forest Waveform Range Test Flight  
Flight Plan Name: D10_BLKF_Black_Forest_v4_PRM  
On-Station Time: 17:30 UTC / 11:30 L

Flyority 7
**Collection Area:** Boulder City Eye Safety Test  
Flight Plan Name: D10_D10C_Boulder_West_Eye_Safety_Test_PRM  
On-Station Time: Daylight – No solar angle restrictions.

Crew: Mitch (Lidar), Abe (NIS), Elissa (Ground)