



## Payload 1 Daily Flight Report



**Date:** 2023-05-27

**Flight Campaign ID:** P1C1

**Airport, FBO ID, City:** Bessemer Municipal Airport - Mitchell Field (KEYY) - Bessemer, AL, Meridian Regional Airport - Key Field (KMEI) - Meridian, MS

**Aircraft:** N331AR

**Domain:** 08 (Ozarks Complex)

**Sites Flown:** DELA\_P1 (Dead Lake Priority 1), LENO (Lenoir Landing), DELA\_P2 (Dead Lake Priority 2)

**Days left in Domain:** 2

**Report Author:** Mitch

**Lidar Operators:** Mitch

**Spectrometer Operators:** Cameron

**Pilots:** Will, Justin

**Flight Hours:** 03:49:00, 01:19:00

**Hours until maintenance:** 39.75

**GPS Instruments:** 04 – LENO, 05 - DELA, 07 – FBO\_KEYY, C-AL84

### Summary

The clearest day in D08 yet allowed the crew to wrap up green coverage over all remaining priority 1 lines at DELA and the remaining unflown lines at LENO. After landing for fuel in Meridian, cumulus clouds had begun to form at DELA, however the crew was still able to collect the last remaining unflown lines under yellow conditions before returning to Bessemer.

### Concerns

- The IWR3 Waveform Digitizer was not displaying proper waveforms and recording minimal amounts of data on initial test fires of the lidar system. Troubleshooting was attempted by power cycling, changing flight plans, changing waveform disks, and reseeding cables, none of which helped. All the lines collected over DELA\_P1 and LENO today were collected in this state, likely without waveform data. After landing in Meridian for fuel and taking off to collect the remaining DELA\_P2 lines, the digitizer worked perfectly. The same disk set and flight plan from earlier in the day at DELA was used, and the system remained powered on during the fuel stop.
- MarsRover software crashed at least three times due to “Frame grabber” error, each required a reboot of the DCC. Seemed to be linked to periods of inactivity during transits to sites.

### Comments

- Crew could not log into GPS 04 at LENO during preflight this morning. Unit came online at some point during the flight, likely after recharging enough from the solar panel. C-AL84 (~30 km from the flight box) is listed as a backup in case the unit did not power on soon enough.
- RAID 2023\_P1C1\_06 was full after yesterday’s flight. Today’s flight will be extracted onto RAID 07. Since RAID 06 still has some flights that need to be approved in ServiceNow, shipping of this RAID may be delayed till after the transit to D02 on Tuesday.

### Daily Coverage

Estimated Cloud Cover Key

Green:	Yellow:	Red:
0-10%	11-50%	>50%

D08|DELA\_P1

Line #	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover																	

Total number of lines flown: 17

D08|LENO

Line #	2	3	4	20	21	22	23	24	25	26
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover										

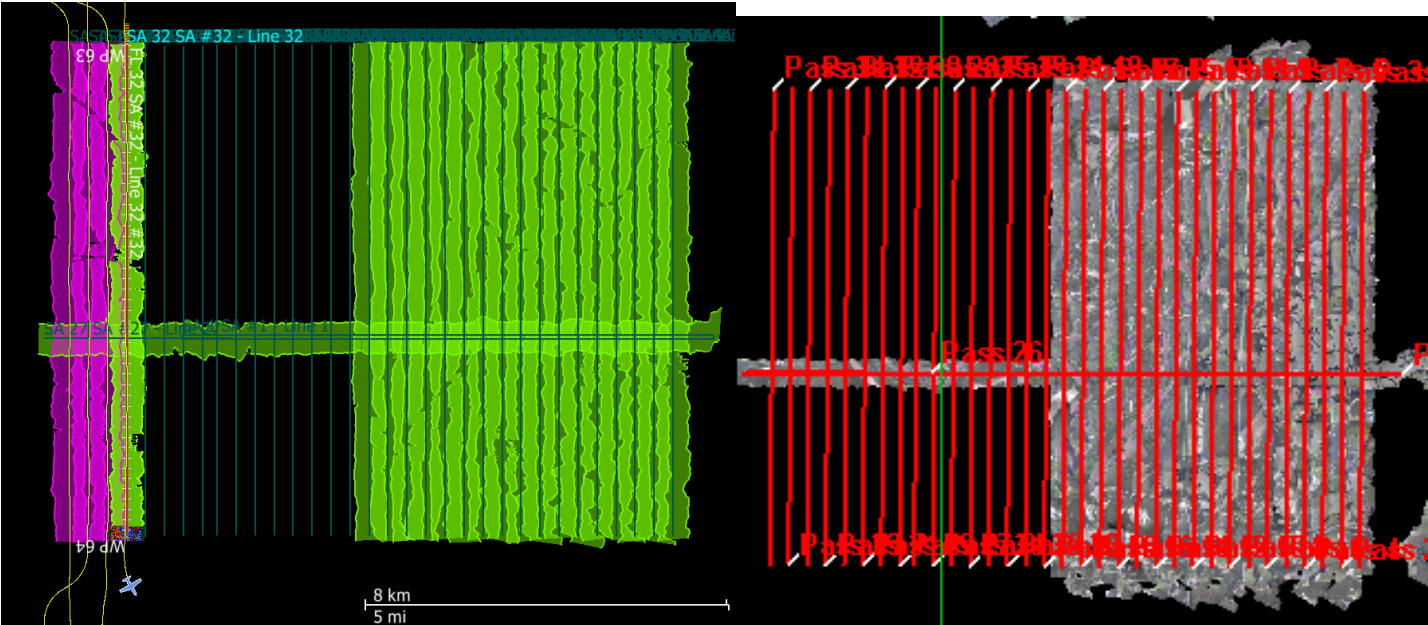
Total number of lines flown: 10

D08|DELA\_P2

Line #	32	33	34	35
Lidar	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓
Camera	✓	✓	✓	✓
Cloud Cover				

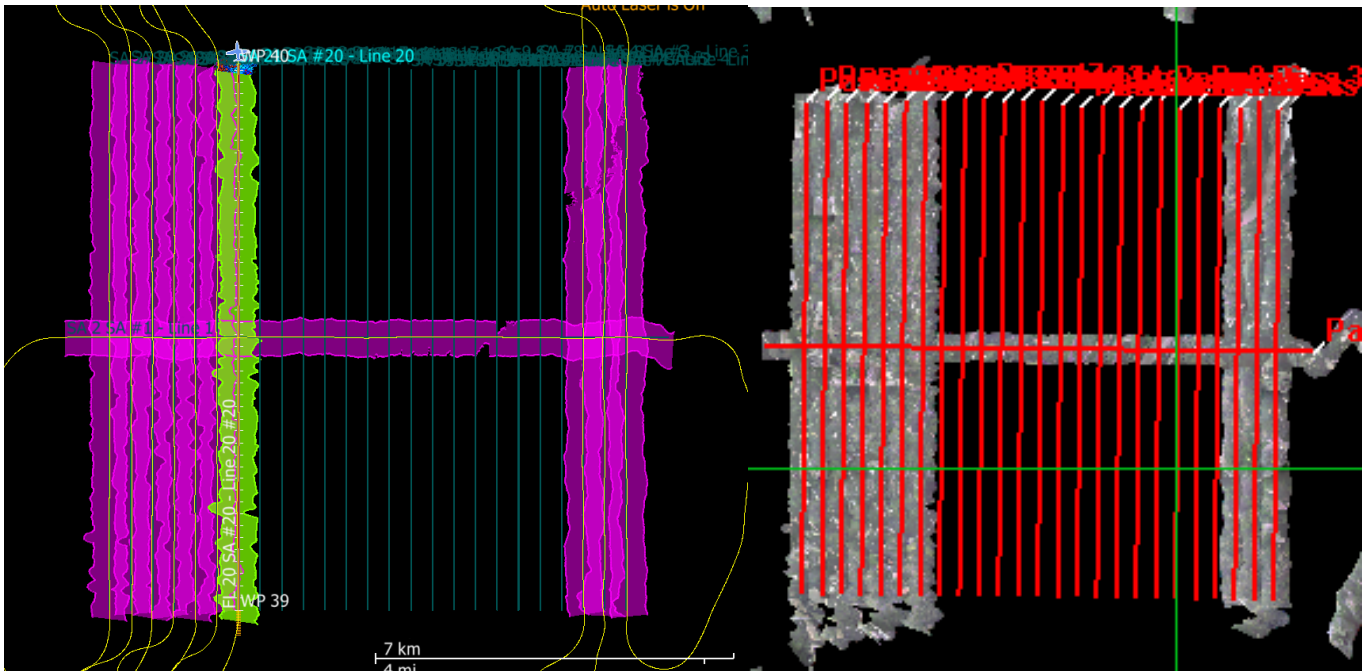
Total number of lines flown: 4

Flight Screenshots



Above left: Lidar screenshot at DELA      Above right: NIS screenshot at DELA (minus the 4 priority 2 lines)





**Above left:** Lidar screenshot at LENO

**Above right:** NIS screenshot at LENO

**Pictures:** Clear skies at Lenior Landing





**Above:** N331AR sitting pretty during a fuel stop in Meridian, MS.

**Cumulative Domain Coverage**

**D08 | DELA\_P1 (Dead Lake Priority 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															

Flown: 100% (25/25)  
 Green: 68% (17/25)  
 Yellow: 0% (0/25)  
 Red: 32% (8/25)

**D08 | DELA\_P2 (Dead Lake Priority 2)**

28	29	30	31	32	33	34	35
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Flown: 100% (8/8)  
 Green: 0% (0/8)  
 Yellow: 50% (4/8)  
 Red: 50% (4/8)

**D08 | LENO (Lenoir Landing)**

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															

Flown: 100% (25/25)  
 Green: 100% (25/25)  
 Yellow: 0% (0/25)  
 Red: 0% (0/25)

**D08 | N08A (D08 Nominal Runway)**

1
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Flown: 100% (1/1)  
 Green: 0% (0/1)  
 Yellow: 100% (1/1)  
 Red: 0% (0/1)

## D08 | TALL (Talladega National Forest)

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															

Flown: 100% (25/25)

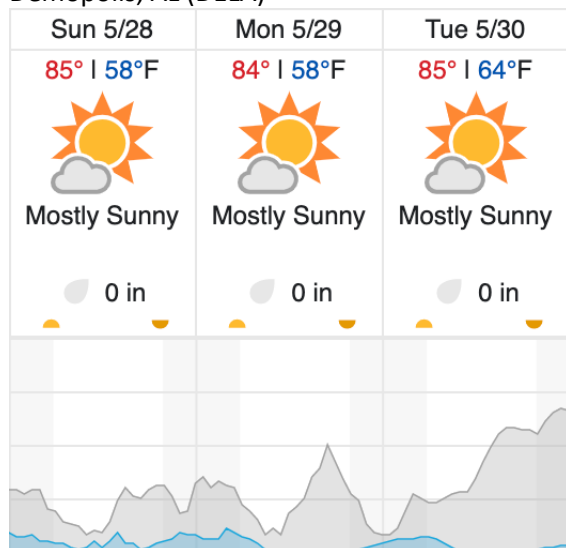
Green: 100% (25/25)

Yellow: 0% (0/25)

Red: 0% (0/25)

## Weather Forecast

Demopolis, AL (DELA)



Cloud Cover (%)	Chance of Precip. (%)
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source: wunderground.com

## Flight Collection Plan for May 28, 2023

Flyority 1 (*lines 19-26, only if green*)

Collection Area: Dead Lake (DELA) – Priority 1 Flight Box

Flight Plan Name: D08\_DELA\_R1\_P1\_P2\_v2\_PRM.xml

On-Station Time: 1410 UTC/ 0910 L

Flyority 2 (*only if green*)

Collection Area: Dead Lake (DELA) – Priority 2 Flight Box

Flight Plan Name: D08\_DELA\_R1\_P1\_P2\_v2\_PRM.xml

On-Station Time: 1410 UTC/ 0910 L

**Crew:** Cam (Lidar), Mitch (NIS)