

HARBOR Flight Summary Data Sheet, Flight Designation (HARyymmdd): HAR 210701

Balloon: 1200 grams, Balloon Date: August 2018

Fill Ballast Weight: 14.4 pounds

Size of Tank #1:

Tank #1 Starting Pressure: 1850 psi; Ending Pressure: 50 psi

Flow meter reading at end of tank #1 usage: _____

Size of Tank #2:

Tank #2 Starting Pressure: 2000 psi; Ending Pressure: 1150 psi

Flow meter reading at end of tank #2 usage: _____

Size of tank #3:

Tank #3 Starting Pressure: N/A psi; Ending Pressure: N/A psi

Flow meter reading at end of tank #3 usage: N/A

Total "psi used" 2650 (Actual volume depends on tank size.)

Cylinder capacities if full: 200 tanks = 5663 L, 300 tanks = 8495 L

Cylinder volumes: 200 tanks = 43.9 L, 300 tanks = 49.8 L

Ideal gas law example: $V_2 = V_1 * (P_1/P_2) = 49.8 \text{ L} * (2500 \text{ psi}/12.27 \text{ psi})$

(12.27psi is ambient at 5000 ft)

Calculated volume from tank 1: 7306 Liters

Calculated volume from tank 2: 3450 Tank 3: _____

Total helium volume used: 10756 Liters = 10.756 m³

Cut Down System. Design/Type = Page. See below for settings.

Parachute Description: Orange, 60-inches, center hole

Payload #1 Description:

Garmin 360 full surround video camera with external battery.

Payload #2 Description:

G.B. Guest Payload with cameras and visual cutouts for display.

LoJack tracking beacon.

Payload #3 Description:

Ozonesonde/radiosonde: Frequency = 403 MHz

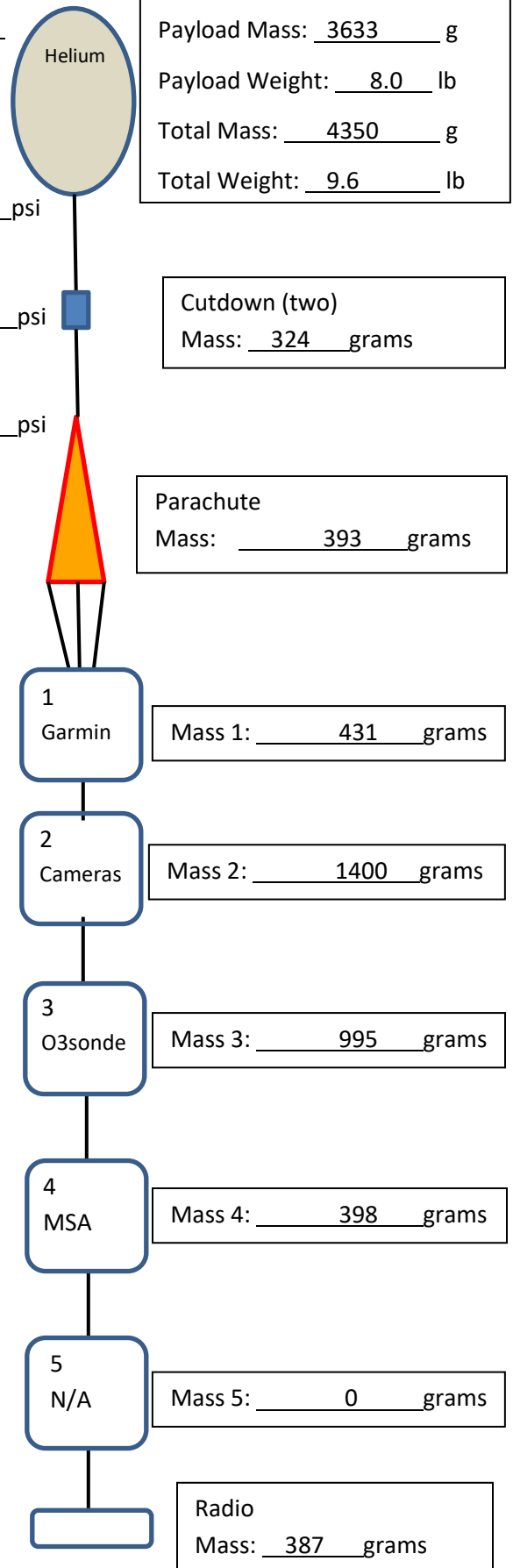
Payload #4 Description:

Multi-Sensor Array (MSA). Test flight for version 2.0 in Rubbermaid housing.

Payload #5 Description:

N/A

RATS call signs KE7ROS-11 and KD7ICN-11



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Launch Site Location: Duchesne Airport (U69) , North: 40.1913 West: -110.3859

Arrival Time at Launch Site: 0730 (This is approximate.)

Launch site wind speed and direction: 2 to 4 m/s from the west.

Cloud cover and type:

Mostly cloudy, cumulus. When we started assembly there was virga to the south.

Fill start time: 0934 Fill stop time: 0944 Total time for fill: 10 minutes .

Cut Down Flight Pin Pulled Time (start of timer) = 09:49:30

Cut Down Duration: 2:00 Estimated Cut Down Time: 11:49:30

Cut Down Terminal Altitude(s): 28,000 meters and 29,000 meters

Approximate Balloon Dimensions at launch: Diameter: _____ meters, Height: _____ meters **Not meas.**

Launch Time: 09:52:00

Average Ascent Rate: 1090 ft/min = 5.537 m/s

Burst Altitude: 85,886 ft = 26,178 m

Burst Time: 11:05 (It was the cut down that activated, and it was at an altitude, not time.)

Landing Time: 11:28:30

Average Descent Rate: -3452 ft/min = -17.538 m/s

Landing Location: Off of Caravan Rd. , North: 40.273667 West: 110.301003

Notes:

1. Say the following to the FAA:

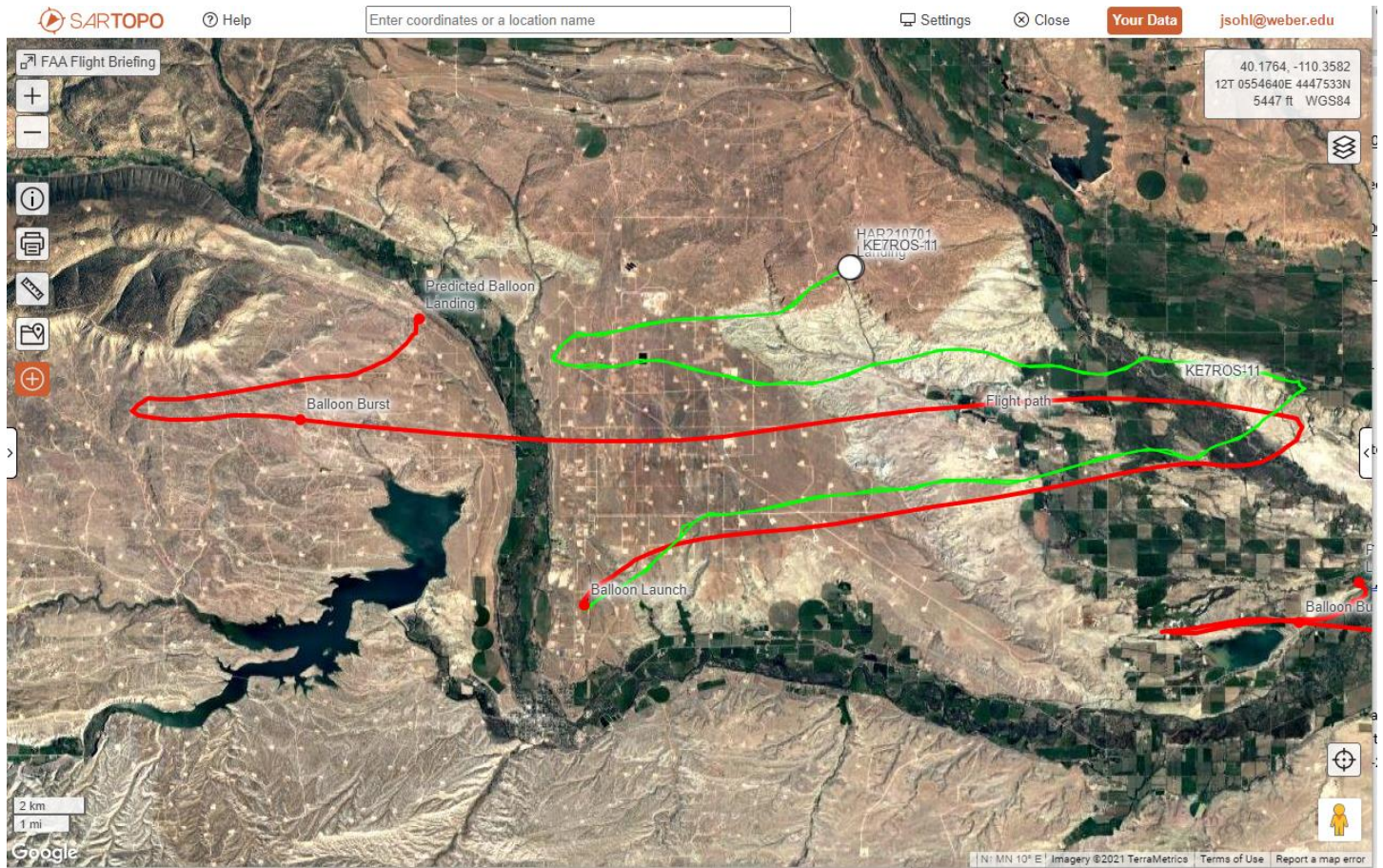
“Flight level 180 (18K ft), Range X-nautical miles, Radial XXX degrees from MTU, magnetic”

2. Call at the following attitudes: 18K ft, 30K ft, 43K feet, then reverse direction when the balloon pops

3. FAA POC: AREA C (801 320-2362) and Area B (801 320-2563)

Maps:

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Red is prediction from two days before, green is actual.