

EVA Report:

EVA #9

Crew members: Camille Gontier (EVA leader), Mohammad Iranmanesh, Mehdi Scoubeau

Location:

Around the Hab (12S-518437E-4251432N) and 12S-520235E-4250690N (interesting canyon spotted)
See attached map.

Time: departure at 9:50 p.m.

Duration: 2 hours 50 minutes

Purposes :

- Project CRV (around the Hab)

Test of camera precision. Small pieces of plastic (3D printer's doodles) have been put on a nearby slope during yesterday's EVA. The goal is to test whether the CRV camera is precise enough to detect them.

- Project Mind-Wandering detection (around the Hab)

Recordings of data during different tasks requiring different attention levels : during CRV manipulation, and when the CRV is being manipulated by someone else (under strong or low supervision).

- Project Embedded Interface for EVA

Recordings of new data for further analysis

- ATV exploration

Exploration in order to find a canyon where CRV could be used.

HabCom: Arthur Lillo (Crew Astronomer)

9:53 a.m.: Leaving Airlock

10:02 a.m.: Filling of static tank

10:05 a.m.: One crew members goes back in main airlock to change helmet.

10:13 a.m.: End of helmet change

10:22 a.m.: End of static tank filling

10:25 a.m.: Static tank closed. Ignition of ATVs

10:35 a.m.: ATVs are heading north

10:47 a.m.: Radio contact lost with Hab

10:52 a.m.: Radio contact established with Hab

11:22 a.m.: Southern road found

12:00 p.m.: EVA finds main road. Goes North-West to the Hab

12:15 p.m.: ATVs back to Hab

12:24 p.m.: HabCom is asked for a twenty minutes prolongation of EVA in order to have enough time to manipulate the CRV. Request approved. Start of CRV test on a slope near the Hab.

12:35 p.m.: CRV is back in the engineering airlock.

12:40 p.m.: EVA back in the Hab.

Summary:

Main goal of EVA 9 was to continue where EVA 4 stopped. We wanted to drive a full loop, starting North from the Hab, to leave the main road to the East, to find a new road to keep driving South (this is where EVA 4 failed), where an interesting canyon is too be found, to North Pinto Hills, and finally to go back to the Hab from the South. We managed to drive this full loop (see map attached) and to

find the canyon to which we will go back tomorrow for further exploration now that the road is known.

On our way back to the Hab, approx. 5mn before reaching the main road and heading North to go back to the Hab, we found an interesting place for further geology and CRV tests.

The fans and battery of backpack n°2 were changed the night before. The procedure proved successful, and even too successful. The crew member equipped with backpack n°2 had to go back in the Hab during the engineering check, as the fans were blowing too hard and he was afraid he might get a cold. He changed his helmet for the one in which the lateral air conducts are blowing the air to the glass part of the helmet (and not directly to his face). He felt perfectly fine for the rest of the EVA. However, having strong fans might prove useful for later rotations, during which weather might get really hot.

Some things went wrong during this EVA : one of the EVA member had a radio failure, and we did not manage safety procedures really well. Besides, the engineering check was longer than usual (we had to fill the static tank), which led to a longer EVA time than previously announced. To prepare next EVAs and to get ready for next year's rotation, we are currently working on establishing common procedures in the following cases :

- during an EVA, where should the person having a radio failure stand ? Besides an EVA buddy, or between two of them ?
- what happens when there is not enough time at the end of an EVA to do an experiment ? Is it possible to ask for an EVA prolongation ? And who should accept or refuse it (HabCom ? EVA leader ? Crew Commander ?)