

EVA Report:

EVA #11B

Crew members: Jeremy RABINEAU (EVA leader), Louis MALLER and Arthur LILLO (EVA buddies)

Location: Around the Hab (12S-518155E-425052N)

Time: departure at 2:51 p.m.

Duration: 1 hour 35 minutes

Purposes:

- Rock Mass Rating

Determination of suitability for construction of a tunnel (for Heidi Beemer experiment)

- Radio test

Test of the ranges of the walkie-talkies on different channels (high and low)

HabCom: Mehdi SCOUBEAU

2.54 p.m.: EVA #11B leaves the Main Airlock

2.56 p.m.: EVA#11B takes the Main Road to reach the RMR site (400m south of the Hab)

3.03 p.m.: EVA #11B loses visibility with the Hab; Low radio channel reception is 3/5; High radio channel is 4/5

3.07 p.m.: Low radio channel reception is 3/5; High radio channel is 4/5

3.08 p.m.: EVA #11B reaches the RMR outcrop (same place as the one that was supposed to be the wrong one during EVA #8)

3.09 p.m.: EVA#11B wonders if the good place is somewhere else and explores the surroundings

3.21 p.m.: EVA #11B comes back to the good RMR outcrop; It is really muddy so it is decided to study another outcrop 50 meters away from it; Low radio channel reception is 1/5; High radio channel is 1/5

3.27 p.m.: EVA #11B starts the analyses on the other outcrop; Low radio channel reception is 4/5; High radio channel is 4/5

3.55 p.m.: EVA #11B ends the RMR analyses

4.00 p.m.: EVA #11B leaves the outcrop and goes back to the Hab

4.03 p.m.: EVA #11B reaches the main road; Low radio channel reception is 4/5; High radio channel is 5/5

4.10 p.m.: EVA #11B notices that the door of the Musk Observatory was open (closed later by the crew)

4.13 p.m.: EVA #11B goes back to the Main Airlock

Summary:

This EVA was part of RMR experiment, led by Heidi Beemer. Its purpose was to determine the effects of perceived stress, isolation, and team efficacy on task performance of Analog Astronauts during a

Martian simulation at the MDRS. In particular, the team was asked to evaluate the suitability of an outcrop for construction of a tunnel to be used as shelter. The different roles assigned for this mission were the same as during EVA #8: Navigator (Jérémy RABINEAU), Geologist (Arthur LILLO) and Recorder (Louis MALLER).

We supposed that we found the wrong place to run the analyses during EVA #8. So we tried to find the good one during this EVA. However, it seems that the muddy outcrop that we found last time was the good one, even if it is very different than what we could see in the pictures from Heidi Beemer (maybe because they were taken a long time ago).

Another outcrop has then been chosen to run the RMR analyses and evaluate the suitability for construction of a tunnel. This time it was far easier, because we already knew all the procedures. According to the results of the measures, this other outcrop is made of "Very Good Rock" (Class I) whose rating is 87%. That means that it is totally suitable for construction of a tunnel.

During this EVA, the range of the walkie-talkies has been tested on different channels. It seems that, indeed, Channel 15 (which is a "high" radio channel) is better for communications with the Hab, than those with Channel 14 (which is a "low" radio channel).