Day 331 (11/27/18)

Status Summary:

All instruments are nominal. OCAMS is on. OD064 has been uplinked.

Yesterday was day 7 of the REXIS Crab calibration, after which we powered REXIS off. Today we collected the first set of PolyCam Shape Model observations. We performed MapCam OpNav with ride-along TAGCAMS imaging over the weekend, yesterday, and today.

All data are now on the ground, with the exception of four missing frames for REXIS. Because this number of frames is lower than our retransmit threshold (20 frames), we are not initiating a retransmit request at this time.

Two REXIS alarms were received today. One was a slight CCD voltage violation from a CCD not used for data collection, so it is not an immediate concern, but the team will monitor it. The other was a serious but transient violation on a CCD voltage channel. No other channels seem to be affected, and the alarm cleared on its own. The team will look closely at the data for impacts. The working theory is that this alarm reflects a radiation effect.

Bashar Rizk presented the latest OCAMS data, including MapCam OpNavs from yesterday and today, a PolyCam Shape Model image from today, and an anaglyph rotation movie from the weekend, which appear to show a highly pebbled and cobbled surface. The Shape Model observations are not well suited to creating rotation movies, so the movie shown today may be the best one that we get. (Movies and other OCAMS flight products are available on ODOCS.) The spacecraft is now ~65 km from the asteroid. Bennu is ~550 and ~100 pixels wide in the PolyCam and MapCam views, respectively.

Development for WOY 5 (L+30 checkouts and calibrations) has started ahead of the nominal kickoff. Josh Nelson will be contacting instrument teams for input.

Looking ahead: We will repeat today's observations tomorrow (Wednesday 28 November, DOY 332), with a greater number of images for the PolyCam Late Shape Model. We will also set the OVIRS decon heater to NON-OP tomorrow; we will return it to the OP setting 8 hours ahead of M0P on Friday (30 November, DOY 334) to protect the instrument during the maneuver, then

back to NON-OP ahead of the spectrometer ride-along observations this weekend. Thursday (29 November, DOY 333), we will have a short DSN pass at an elevated data rate (1.3 Mbps).

Upcoming meetings: There will be a Science Weekly meeting on Thursday; contact Mike Nolan if you would like to add a topic to the agenda.

Day 332 (11/28/18)

Status Summary:

All instruments are green. OCAMS is on.

We executed PolyCam Shape Model observations today, followed by MapCam OpNav and TAGCAMS ride-along imaging. All data have been received on the ground.

A new ISA is pending related to the recently identified REXIS issues. As the team investigated the missing frames and alarms noted in yesterday's downlink tag-up, they encountered housekeeping packets that were mislabeled as OLA-unrecognized. It is possible that all of these anomalies are related; root cause is under investigation. Discussion will continue offline about how to best track such issues with respect to individual events. PFRs 34 and 35 have been opened regarding the REXIS event count rate and iron spectral shift, respectively.

Bashar Rizk presented the latest OCAMS data. The spacecraft is now less than 60 km from the asteroid, which is more than 600 pixels wide in the PolyCam view. Bennu is not in the center of the frame in any of today's PolyCam images, owing to the 3-sigma mosaic design. Yesterday's rotation movie (available in anaglyph, free view, and VR-ready formats on ODOCS; contact Bashar if you cannot access the OCAMS flight products) is the first that we have produced using just frame images. The team is working hard on analyzing features of the images such as craters and boulders.

Looking ahead: Tomorrow (29 November, DOY 333), we will have a short DSN pass at an elevated data rate (1.3 Mbps). Over the next two days, we will only perform MapCam OpNav with ride-along TAGCAMS OpNav and Natural Satellite Search. M0P will take place on Friday (30 November, DOY 334). PolyCam Shape Model imaging will resume Saturday (1 December, DOY 335).

Upcoming meetings: There will be a Science Weekly meeting tomorrow; contact Mike Nolan if you would like to add a topic to the agenda

Day 333 (11/29/18)

Status Summary:

All instruments are green. OCAMS is on. No new issues or alarms.

Today we collected MapCam OpNavs with TAGCAMS ride-along imaging. Our short HGA pass today was performed at the higher data rate (1.3 Mbps). All data have been received on the ground.

Looking ahead: Tomorrow (Friday 30 November, DOY 334), we will execute M0P at 16:00 UTC, which will bifurcate the DSN pass. We will also collect MapCam OpNavs with ride-along TAGCAMS as we did today. PolyCam Shape Model imaging will resume Saturday (1 December, DOY 335).

Day 334 (11/30/18)

Status Summary:

All instruments are green. OCAMS is on. OD065 has been uplinked.

During today's pass, the DSS55 antenna was briefly pointed away from us. The problem was corrected quickly. No science impacts have been noted.

Today we executed the M0P burn. The quicklook report indicates good performance; the spacecraft appears to be on track to be in the correct position for M1P. We also collected MapCam OpNavs with TAGCAMS ride-along imaging today. All data have been received on the ground.

Looking ahead: We will collect PolyCam Shape Model images Saturday and Sunday (1 and 2 December, DOY 335 and 336), with OVIRS and OTES riding along on Sunday. DSN passes this weekend will be long. The spacecraft will arrive at Bennu on Monday (3 December, DOY 337), and the first Preliminary Survey flyby will happen on Tuesday (4 December, DOY 338).