Mars for Earthlings

LESSON 7: Life-Hosting Rocks

Homework 1

Life-Hosting Rocks_MFE

The Energy of Rocks

Purpose: Recognize the energy of the environment by its sedimentary structures.

Corn Syrup and Water Experiments

Watch the following videos:

- Flume Experiment: http://www.youtube.com/watch?v=zRGuMddjRGg&list=PL17AFB4B8AB3DCCF7
- Corn-Syrup Experiment: http://www.youtube.com/watch?v=W3YZ5veN_Bg

1. As you watch the videos, compare/contrast the following parameters:

Parameter	Corn Syrup	Water
Velocity of flow		
Type of structures formed		
High or low energy environment		

The dynamics of sedimentary environments

2. Compare the following environments of deposition according to the following parameters: [Write your answers a-c to the right of the image]
    a. Processes at work
    b. Strength of weathering and/or erosion
    c. Preservation potential of life

Figure 1: Cathedral Cove; Channel Islands National Park, CA. Image: nps.gov

Mars for Earthlings

Figure 2: White Sands National Monument, NM. Image: nps.gov

Sedimentary structures/textures on Mars

3. Similar to Question #3, annotate to the right of each image of Mars below:
    a. What structures do you see?
    b. What is a likely environment of formation?
    c. Was the environment high or low energy in your opinion?

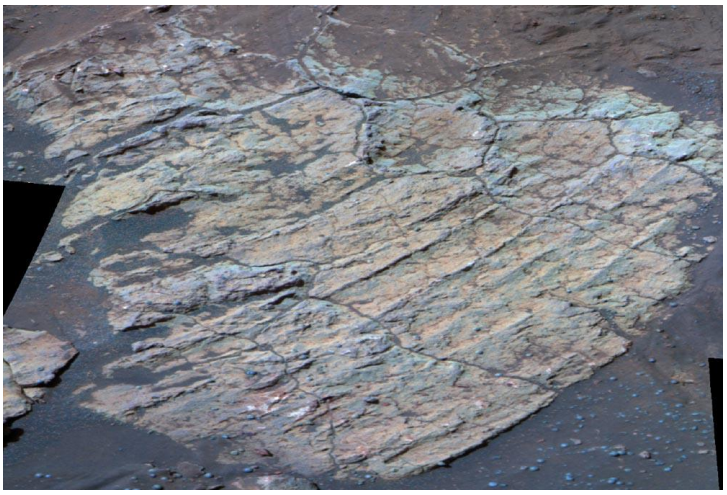

Figure 3: "Escher" rock in Endurance Crater investigated by Opportunity rover; Image Credit: NASA/JPL

Mars for Earthlings

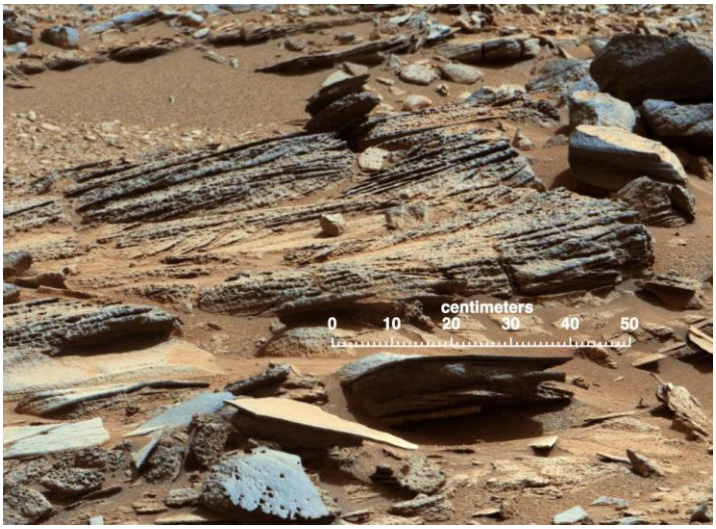

Figure 4: "Shaler" outcrop at Gale Crater investigated by MSL Curiosity rover; Image Credit: NASA/JPL-Caltech/MSSS