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## Supporting Online Material for

### **Quasi-Periodic Bedding in the Sedimentary Rock Record of Mars**

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#### **This PDF file includes:**

Tables S1 to S6

### HiRISE Stereo Images

Crater Name	Location	Left Image	Right Image
Becquerel	22°N, 352°E	PSP_001546_2015	PSP_001955_2015
Crommelin	5°N, 350°E	PSP_003432_1850	PSP_005766_1850
Unnamed	8°N, 353°E	PSP_002733_1880	PSP_002878_1880
Unnamed	8°N, 359°E	PSP_001902_1890	PSP_002047_1890

Table S1: HiRISE images used for stereo analysis at each location in Arabia Terra.

Becquerel Beds

Number	X (m)	Y (m)	Z(m)	Thickness (m)
1	0.0	0.0	-3383.6	3.4
2	22.4	6.2	-3381.5	2.8
3	28.9	0.1	-3378.8	3.4
4	39.5	-4.4	-3375.0	3.3
5	48.2	-9.8	-3372.1	3.2
6	55.4	-18.6	-3370.3	3.4
7	65.3	-24.5	-3367.0	3.7
8	73.2	-31.7	-3363.8	3.8
9	85.8	-18.4	-3360.1	2.7
10	85.3	-28.0	-3357.1	2.4
11	87.6	-34.9	-3354.6	2.7
12	92.5	-33.9	-3353.2	4.0
13	142.0	-48.6	-3343.9	4.3
14	152.3	-57.0	-3340.5	4.8
15	165.8	-60.0	-3336.1	4.1
16	172.3	-64.9	-3332.9	3.4
17	179.4	-72.6	-3329.1	4.1
18	186.8	-74.8	-3325.1	4.6
19	251.3	-100.7	-3311.8	3.0
20	259.1	-103.0	-3308.9	4.2
21	268.7	-107.2	-3305.1	5.7
22	281.3	-109.8	-3299.4	4.7
23	299.4	-96.9	-3295.8	4.8
24	310.1	-100.5	-3291.2	4.1
25	383.4	-89.2	-3279.6	2.0
26	386.1	-98.8	-3278.4	2.2
27	386.5	-112.2	-3276.7	3.2
28	398.6	-115.5	-3273.8	3.6
29	410.1	-122.5	-3270.9	4.2
30	483.9	-355.8	-3264.7	3.1
31	487.8	-379.5	-3262.5	3.6
32	491.9	-402.0	-3260.5	3.6
33	503.9	-404.1	-3256.9	3.2
34	505.6	-417.1	-3254.4	4.0
35	505.5	-436.4	-3250.6	4.2

Becquerel Beds (cont.)

Number	X (m)	Y (m)	Z(m)	Thickness (m)
36	512.9	-436.0	-3246.6	4.4
37	519.5	-444.5	-3243.5	2.9
38	652.0	-499.5	-3227.0	3.2
39	663.5	-502.7	-3224.3	3.2
40	666.7	-512.2	-3222.2	4.1
41	671.6	-519.5	-3219.5	3.7
42	682.2	-519.9	-3215.8	6.5
43	754.0	-629.0	-3203.9	2.1
44	770.7	-619.3	-3201.5	1.6
45	768.6	-657.7	-3202.1	2.6
46	938.9	-779.1	-3186.1	4.9
47	945.7	-811.8	-3182.8	3.3
48	933.6	-863.1	-3181.4	4.1
49	954.6	-883.9	-3178.6	4.1
50	990.0	-888.4	-3175.4	2.6
51	1256.9	-1174.9	-3172.5	4.1
52	1280.7	-1184.8	-3169.9	5.1
53	1306.5	-1185.6	-3165.1	6.6
54	1325.6	-1206.3	-3160.1	6.5
55	1382.6	-1119.1	-3150.6	2.5
56	1399.9	-1138.5	-3149.0	3.1
57	1411.8	-1142.6	-3146.6	3.2
58	1529.7	-1186.0	-3136.2	3.7
59	1555.1	-1184.4	-3131.9	3.2
60	1563.6	-1209.3	-3129.3	3.1
61	1578.0	-1211.2	-3126.2	3.2
62	1589.5	-1210.3	-3121.3	3.0
63	1607.0	-1206.8	-3118.1	2.9
64	1614.4	-1213.3	-3115.3	3.6
65	1616.5	-1225.4	-3111.8	3.4
66	1618.2	-1235.3	-3107.9	2.3

Table S2: Bed locations and thicknesses measured from HiRISE stereo topographic data at Becquerel crater. Locations are given at the base of each bed. True stratigraphic thicknesses are listed, after taking into account the structural dip of the bedding.

Becquerel Bundles

Number	X (m)	Y (m)	Z(m)	Thickness (m)
1	0.0	0.0	-3385.6	31.4
2	62.5	-88.5	-3359.1	40.6
3	182.5	-142.5	-3323.6	36.7
4	254.0	-233.3	-3294.1	25.2
5	376.5	-314.8	-3274.5	44.1
6	496.5	-547.2	-3243.2	36.6
7	633.8	-630.4	-3215.6	18.6
8	725.8	-754.9	-3204.3	40.9
9	998.5	-933.6	-3178.2	49.7
10	1380.6	-1250.1	-3150.9	31.3

Table S3: Bundle locations and thicknesses measured from HiRISE stereo topographic data at Becquerel crater, as in Table S2.

Crommelin Beds

Number	X (m)	Y (m)	Z(m)	Thickness (m)
1	0.0	0.0	-3111.7	21.0
2	-59.4	-40.0	-3107.9	26.4
3	-172.8	-53.8	-3100.0	19.3
4	-264.0	-112.3	-3098.6	16.7
5	-439.2	-89.9	-3110.0	13.1
6	-574.7	-53.3	-3114.8	19.4
7	-672.1	-105.2	-3113.5	22.6
8	-868.1	-109.6	-3129.1	18.2

Table S4: Bed locations and thicknesses measured from HiRISE stereo topographic data at Crommelin crater, as in Table S2.

8°N, 353°E Beds

Number	X (m)	Y (m)	Z(m)	Thickness (m)
1	0.0	0.0	-3216.0	11.2
2	5.1	-33.3	-3208.8	6.5
3	16.0	-74.6	-3203.6	9.4
4	-8.9	-166.2	-3199.2	10.0
5	-68.1	-259.1	-3193.2	9.7
6	9.5	-323.2	-3186.4	7.2
7	-59.8	-393.8	-3183.6	9.7
8	-157.4	-478.3	-3180.0	10.5
9	-228.2	-548.8	-3174.0	8.4
10	-235.2	-595.0	-3168.5	9.5
11	-262.2	-648.0	-3161.9	10.5
12	-242.7	-710.8	-3154.5	10.6
13	-256.7	-771.6	-3146.9	12.5
14	-291.6	-841.6	-3139.2	9.6

Table S5: Bed locations and thicknesses measured from HiRISE stereo topographic data at an unnamed crater located at 8°N, 353°E, as in Table S2.

8°N, 359°E Beds

Number	X (m)	Y (m)	Z(m)	Thickness (m)
1	0.0	0.0	-2551.7	10.1
2	8.8	73.1	-2533.7	13.1
3	16.7	126.1	-2516.1	11.8
4	55.2	145.2	-2504.2	9.6
5	109.8	168.6	-2489.6	9.7
6	106.9	200.5	-2477.3	14.3
7	109.7	248.1	-2458.9	14.5
8	87.2	302.3	-2440.0	12.8
9	144.6	334.4	-2423.4	17.8
10	159.3	391.5	-2397.1	12.1

Table S6: Bed locations and thicknesses measured from HiRISE stereo topographic data at an unnamed crater located at 8°N, 359°E, as in Table S2.