

ANNEX M
to
MARS CORRECT: Critique of all NASA Mars Weather Data With Emphasis on Pressure
One Martian Year of MSL Weather Reports

Although MSL Curiosity Weather Boom 1 broke on landing, and although it has the ground temperature sensor, the REMS Team in late June, 2013 somehow managed to publish ground (as well as air) temperatures for almost all sols back to the landing. Previous REMS reports only included air temperatures. These temperatures are of interest to the pressure issue because the density of the Martian air will affect how fast cooling or heating will occur between the ground and the air at the level of the weather boom. The REMS Team (and their partners, Ashima Research) basically surrendered to the Roffman Team on two key issues. One is wind. As per our demands, they changed all reports listing winds at a never changing 2 m/s or 7.2 km/h from the east to **Not Available**. We asserted this need because Boom 1 broke on landing and, in fact, the winds were not available. The second demand related to sunrise/sunset times. These were not shown on earlier REMS Team reports, but were shown incorrectly on Ashima reports until May, 2013. They indicated a constant sunrise at 6 am and a constant sunset at 5 pm. After May 8, 2013 Ashima used our figures (within 1 or 2 minutes for total daylight hours). REMS now publishes sunrise/sunset times that are in line with our figures too, but they are left off the report below because they are no longer an issue (see my [calculations for Martian daylight times here](#)). The new REMS report does not include relative humidity which remains an issue discussed at http://marscorrect.com/photo2_13.html. In regard to the sudden appearance of ground temperatures after almost a year of

no such data and a damaged Boom 1, Guy Webster, JPL's public relations director wrote us on July 23, 2013, stating that "The damage on landing did not include the infrared sensor that provides ground-temp information." He went on to say that, "Ground temps through about Sol 200 were charted in April on the bottom half of http://photojournal.jpl.nasa.gov/catalog/PIA_16913." However he failed to address the issue of why all the temperatures were suddenly dropped by great amounts. **Partially answered questions do not, in my book, indicate a credible response.** I asked him several times about the temperature reduction, and each time the question was ignored.

REMS Team caught altering temperature data (see Figure 1). After we spent two days posting all the data in Table 1 below, we found that on the night of July 1, 2013 the REMS Team site only went up to Sol 275 (July 1, 2013 was MSL Sol 344). Further the ground temperatures given were markedly lower than earlier in the day. For example, for Sol 275 they showed a minimum ground temperature of -101° C but earlier in the day they posted -67° C. They also changed their minimum air temperature for this date from -70° C to -116° C. In working back through their data, we were horrified to see that they changed much or most of their data on July 1, 2013 back to the very first sol when they listed the minimum ground temperature as -27° C before, but altered it to -50° C! This would have required us to publish a Table 2 to reflect their new attempt to guess at ground

temperature, but we decided to allow them a few days to stabilize their chart. By early on July 3, 2013 Figure 1 shows that they again altered their figures. In the case of Sol 275 the minimum air temperature changed from -116°C to -67°C , and the minimum ground temperature changed from -101°C to -67°C . Sol 1's minimum ground temperature changed back from -50°C to -27°C again. However, by the end of the day on July 3 it appeared as though the data was restored to what they advertised back on July 1, 2013, but it was all very different from what was published back to August 2012.

Comparing all this new data with earlier REMS data is hard because early dating was so out of order so many times, but we did the best we could on Figure 2 and Table 1. There are many hints of incompetence or disinformation. For example, in addition to the more obvious changes in pressures units from hectopascals down to pascals that resulted pressure readings only 1% of the original reported pressures for September 1 to 5, 2012, there were four dates that I focused on in my earlier reporting that were somewhat higher than expected. They were for Sols 19, 21, 35 and 40. The new report shows pressures reduced on Sol 19 from 785 to 719 Pa, on Sol 21 from 790 to 741 Pa, on Sol 35 from 799 to 749 Pa and on Sol 40 from 804 to 753 Pa. In each case the net result is to make the pressure curve conform to what was expected based on Viking 1 and Viking 2 pressure curves. This trend was definitely repeated when we compared original air temperatures with the new ones. In fact, if the goal was to make Mars look bad, then that is exactly what they did. They took over 70 sols that had high temperatures above freezing and dropped them to below freezing. The REMS Team removed the data for the first 9 sols of MSK, however if we

look at Sol 10 (Ls 155) the average pressure was 739 Pa. Go a Martian year later to Sol 678 when the Ls was 155 again and we see the same pressure of 739 Pa. There is a tremendous variation of weather on Mars, but the JPL reports seem to be designed to show almost no real variation at all.

TABLE 1. Table 1 below shows how the weather at MSL varied between landing on August 6, 2012 and Sol 682 on July 7, 2014. Color coding is as follows:

Column A (Sol). The Martian day is about 39 minutes longer than the terrestrial day. Occasionally (at MSL Sols 34, 106, 179, 215, 252, 267, 288, 328 (etc. as the chart grew) the REMS reports indicated 2 days forward but only 1 sol forward. These days flagged with a gray background.

Column B (Ls) is highlighted when seasons change or minimum pressures are seen as with Ls 157 and 147.

Columns D and E are highlighted in yellow or red when there are minor (yellow) or major changes in pressure published by the REMS Team. Red background with red letters are shown for times when the new REMS reported switched from hPa to Pa (September 1 to 5), or changed sol numbering (August 31).

Columns F and G show a very disturbing effort made by the REMS Team and JPL to alter almost all previous air temperatures that were above freezing to now read below freezing. We used to assume that at least some of the pressure data was faked, but not the temperature data. Now we know that data manipulation, alteration, and manufacture has crept into all areas of MSL data.

Column I shows the air temperature range for each sol. On Earth temperatures can vary by 40 °C in deserts. In column H where the range is 60 °C or less light blue background coloring points that out.

Column J allows us to compare terrestrial deserts with Gale Crater, Mars. How much cooling occurs at night is related to the density of the atmosphere. Here we see the ratio of cooling on a Mars sol to the 40 °C cooling figure for Earth's deserts shown with a blue background when that ratio is under 1.5, or with red when the ratio drops to 1.3 or less.

As with terrestrial deserts, the ground on Mars heats more during the day than the air does, and it cools more at night than the air does. In Column K when the maximum ground temperature is given by REMS is between 1°C and 9°C it is shown with red background or more, if it is 10 °C or more it has an orange background.

Column L shows the minimum ground temperature. When it is -80 °C to -89 °C that is shown with a dark blue background. When it is -90 °C or colder the background is in black.

Column M shows the increase in temperature from the mast 1.5 meters above the ground down to the ground during the daylight hours. In column M anytime there is an increase in temperature of 20 °C or more this is indicated with a red background. All ground temperatures were left off all the daily weather reports until July, 2013. In the first 682 sols of MSL (revised) weather reports there were 78 sols in which the value of temperature increases in column M was at least 20 °C.

The ground temperatures are not very precise. Ground temperatures were supposed to be recorded with a [thermopile](#) on Boom 1 (which suffered some damage on landing). Assuming that Guy Webster (JPL P.R.) was correct when he told me that only the wind sensor was damaged on Boom1, the ground temperature sensor was supposed to view the Martian surface to the side of the rover through a filter with a passband of 8 to 14 microns. The requirement was to measure ground brightness temperature over the range from 150 to 300 K with [a resolution of 2 K and an accuracy of 10 K](#). REMS has made a number of changes to ground temperatures they post since they began doing so in 2013.

Column N shows the decrease in temperature from the ground to the air at nights. If the data were valid we would expect similar heating or cooling to occur over the set distance from ground to boom. A quick survey of the data immediately shows that this was not found. In column N we see a variation in heating between 0°C and 30°C. For daytime heating any variation over 20°C is shown with a red background. For night time cooling any variation over 10°C is shown with a blue background. One night (Sol 192 on February 19) showed more ground heating at night (minimum ground temperature was listed as -1 °C, but the minimum air temperature is given as -68 °C) which makes no sense unless there is a geothermal event that corresponds to this reading. For Sol 192 the REMS Team went back and changed the pressure from unlisted to 940 Pa (the highest pressure shown on their revised reports). Again, they later dropped pressure for Sol 370 back from 1149 Pa (11.49 mbar) to 865 Pa.

Column O is for comments.

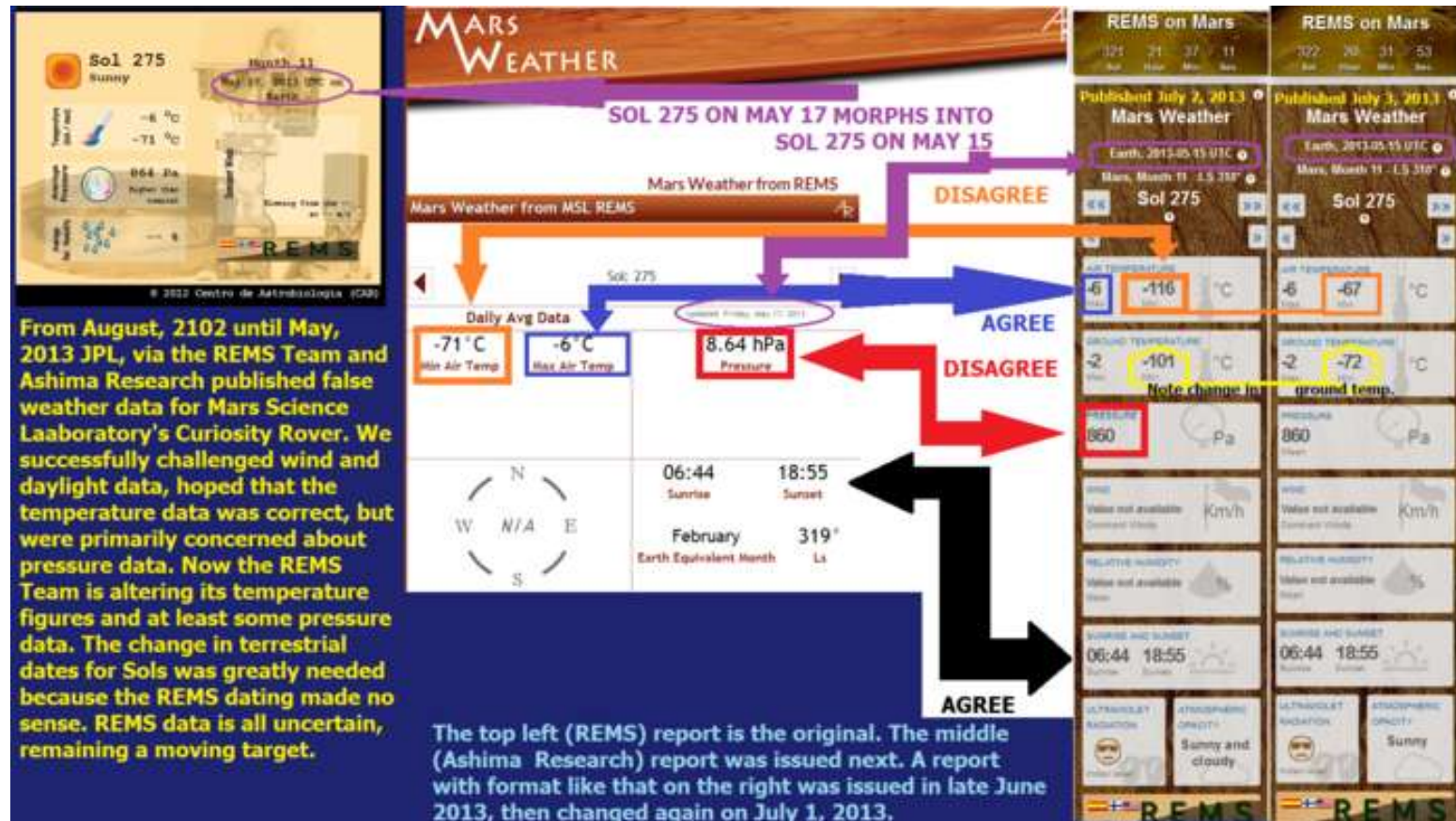


Figure 1 - Changing Martian weather data from the REMS Team.

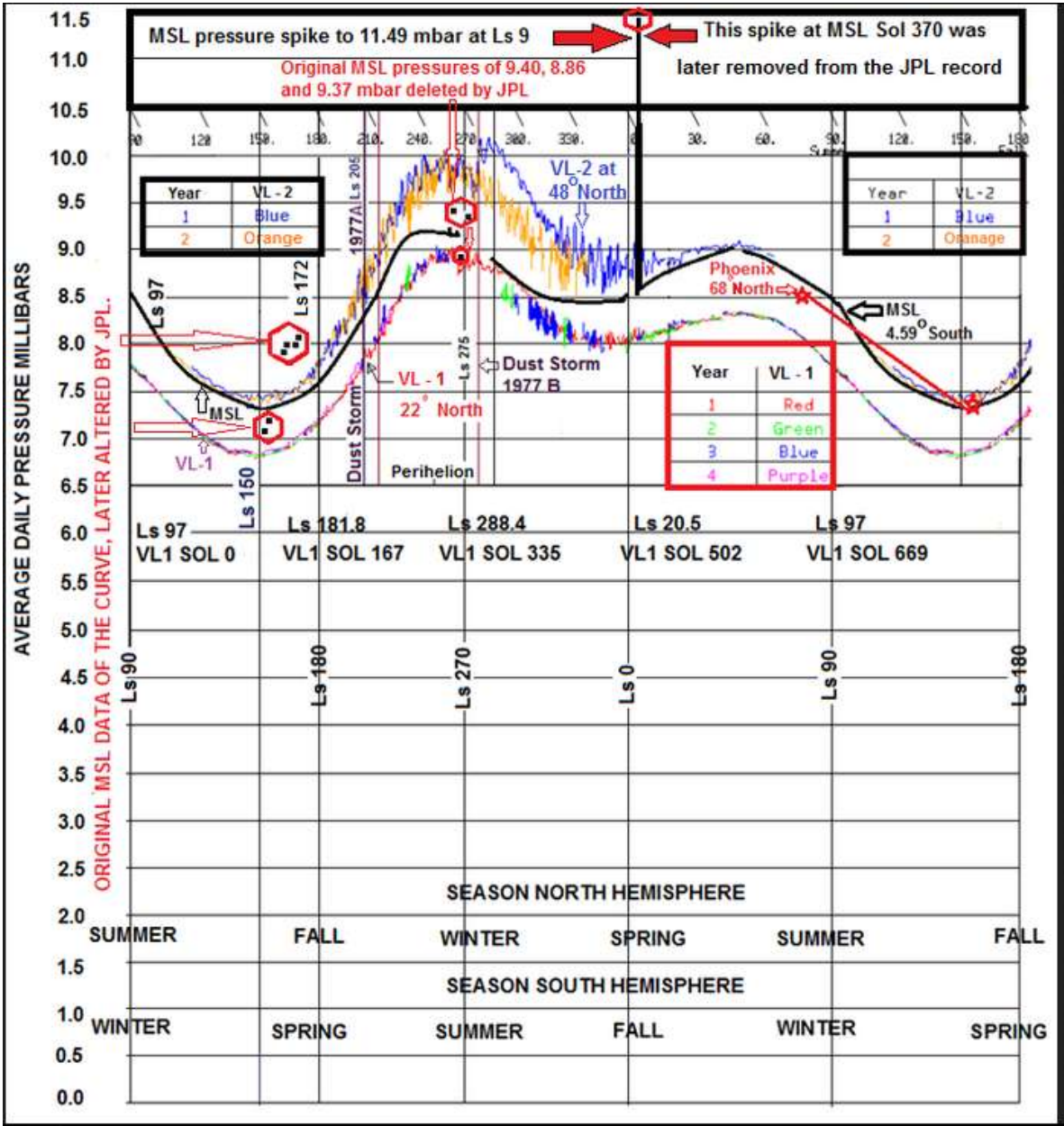


Figure 2 - Viking 1, Viking 2, Phoenix and MSL Pressure Record. This graph is based on what JPL displayed AFTER they removed the 11.49 mbar spike on MSL Sol 370 (Ls 9, August 21, 2013). This was the highest pressure ever seen on Mars and one that had the pressure transducer maxed out at its capacity. Likewise the REMS Team and JPL altered many other pressures that were off the expected curve. The Viking 1 and 2 curves here are from the Viking Computer Facility. The MSL and Phoenix curves are based on Excel spreadsheets and data hand drawn on Paint in accordance with the data. The actual MSL pressure curve from Excel is on Figure 3

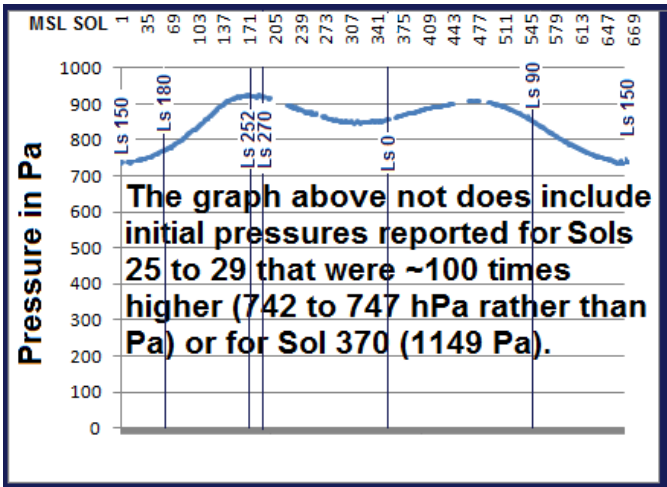


Figure 3 – Excel-generated pressure curve for MSL Year One.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-6

1	150	8/7/2012	705	N/A	-6		-11	5		21	-27	27	-16	
2	151	8/8/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
3	152	8/9/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4	152	8/10/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
5	153	8/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
6	153	8/12/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
7	154	8/13/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
8	155	8/14/2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
9	155	8/15/2012	718	N/A	-13		-65	52	1.3	17	-75	30	-10	
10	155	8/16/2012	N/A	739	-16		-75	59	1.475	8	-88	24	-13	
11	156	8/17/2012	N/A	740	-11		-76	65	1.625	9	-88	20	-12	
12	156	8/18/2012	N/A	741	-18		-76	58	1.45	8	-87	26	-11	
13	157	8/19/2012	N/A	732	-15		-74	59	1.475	8	-85	23	-11	Minimum pressure same as Ls 147
14	157	8/20/2012	N/A	740	-16		-74	58	1.45	8	-87	24	-13	
15	158	8/21/2012	N/A	740	-15		-78	63	1.575	8	-86	23	-8	
16	158	8/22/2012	730	740	0	-1	-77	77	1.925	9	-86	9	-9	
17	159	8/23/2012	740	742	-4	0	-76	72	1.8	6	-85	10	-9	
18	160	8/24/2012	761	N/A	-21		-73	52	1.3	2	-85	23	-12	INTERIM PRESSURE 761 Pa
19	160	8/25/2012	719	N/A	-3	-18	-61	58	1.45	7	-71	10	-10	INTERIM PRESSURE 719 Pa
20	161	8/26/2012	727	N/A	-1		-68	67	1.675	8	-81	9	-13	INTERIM PRESSURE 727 Pa

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-7

21	161	8/27/2012	790	741	-3	0	-74	71	1.775	7	-86	10	-12	
22	162	8/28/2012	740	742	-6	3	-74	68	1.7	8	-86	14	-12	
23	162	8/29/2012	740	741	-16	0	-75	59	1.475	8	-87	24	-12	
24	163	8/30/2012	740	742	-7	0	-75	68	1.7	6	-88	13	-13	
25	163	8/31/2012	N/A	743	-11		-75	64	1.6	6	-84	17	-9	
26	164	9/1/2012	74200	745	-14	2	-76	62	1.55	5	-87	19	-11	REPORTS WERE FIRST
27	164	9/2/2012	74300	743	-15	-1	-75	60	1.5	5	-83	20	-8	FOR 742 TO 747 hPa FOR
28	165	9/3/2012	74500	745	-15	-6	-81	66	1.65	5	-84	20	-3	SEP 1 TO 5, 2012, THEN
29	166	9/4/2012	74700	747	-2	-7	-77	75	1.875	6	-83	8	-6	UNITS WERE ALTERED TO
30	166	9/5/2012	74700	747	-3	-2	-74	71	1.775	6	-83	9	-9	Pa
31	167	9/6/2012	747	745	-23	-3	-74	51	1.275	1	-84	24	-10	
32	167	9/7/2012	742	N/A	-2		-62	60	1.5	6	-72	8	-10	INTERIM PRESSURE 726
33	168	9/8/2012	748	748			-73	71	1.775	5	-84	7	-11	
34	168	9/10/2012	748	748	1	0	-94	95	2.375	5	-83	4	11	
35	169	9/11/2012	799	749	-1	-2	-73	72	1.8	6	-83	7	-10	
36	169	9/12/2012	744	750	-1	5	-73	72	1.8	6	-82	7	-9	
37	170	9/13/2012	752	750	0	0	-73	73	1.825	6	-83	6	-10	
38	171	9/14/2012	748	750	-13	-3	-73	60	1.5	7	-82	20	-9	
39	171	9/15/2012	757	751	-8	-3	-75	67	1.675	7	-83	15	-8	
40	172	9/16/2012	804	753	-12	2	-75	63	1.575	7	-83	19	-8	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
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M-8

41	172	9/17/2012	752	753	-12	2	-75	63	1.575	7	-84	19	-9	
42	173	9/18/2012	755	754	-7	5	-75	68	1.7	7	-85	14	-10	
43	173	9/19/2012	756	756	-12	3	-74	62	1.55	9	-84	21	-10	
44	174	9/20/2012	754	757	-10	4	-75	65	1.625	13	-91	23	-16	
45	175	9/21/2012	757	758	-9	3	-74	65	1.625	11	-92	20	-18	
46	175	9/22/2012	759	758	-12	4	-74	62	1.55	13	-88	25	-14	
47	176	9/23/2012	758	758	-9	6	-75	66	1.65	13	-88	22	-13	
48	176	9/24/2012	758	759	0	4	-75	75	1.875	11	-89	11	-14	
49	177	9/25/2012	763	761	-10	4	-74	64	1.6	9	-86	19	-12	
50	177	9/26/2012	760	761	-10	0	-72	62	1.55	11	-80	21	-8	
51	178	9/27/2012	766	762	-7	3	-76	69	1.725	13	-88	20	-12	
52	179	9/28/2012	765	762	-7	7	-74	67	1.675	12	-89	19	-15	
53	179	9/29/2012	765	764	-5	5	-71	66	1.65	11	-86	16	-15	
54	180	9/30/2012	764	766	-9	5	-72	63	1.575	10	-82	19	-10	SPRING AT MSL AND SOUTH POLE
55	180	10/1/2012	768	766	-2	-1	-74	72	1.8	10	-82	12	-8	
56	181	10/2/2012	770	768	-4	-3.8	-73	69	1.725	10	-85	14	-12	
57	181	10/3/2012	779	769	-3	-3.8	-73	70	1.75	12	-87	15	-14	
58	182	10/4/2012	779	769	-3	-3	-74	71	1.775	11	-87	14	-13	
59	183	10/5/2012	781	771	-1	-1	-76	75	1.875	11	-87	12	-11	
60	183	10/6/2012	785	772	-2	-2	-75	73	1.825	12	-89	14	-14	
61	184	10/7/2012	779	772	-2	-1	-72	70	1.75	12	-88	14	-16	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
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M-9

62	184	10/8/2012	782	774	-1	-1	-72	71	1.775	11	-87	12	-15	
63	185	10/9/2012	786	775	0	-1	-73	73	1.825	11	-86	11	-13	
64	186	10/10/2012	785	776	0	-1	-74	74	1.85	12	-87	12	-13	
65	186	10/11/2012	785	777	-2	-2	-72	70	1.75	12	-87	14	-15	
66	187	10/12/2012	781	778	-2	-5	-73	71	1.775	11	-88	13	-15	
67	187	10/13/2012	N/A	780	-6	-1	-73	67	1.675	13	-86	19	-13	
68	188	10/14/2012	N/A	781	-2		-71	69	1.725	12	-85	14	-14	
69	189	10/15/2012	N/A	778	0		-73	73	1.825	12	-87	12	-14	
70	189	10/17/2012	785	783	-1	-2	-72	71	1.775	13	-87	14	-15	
71	190	10/18/2012	786	784	-2		-71	69	1.725	12	-86	14	-15	
72	190	10/19/2012	788	785	-2	0	-73	71	1.775	12	-87	14	-14	
73	191	10/20/2012	790	788	0	-2	-70	70	1.75	13	-88	13	-18	
74	192	10/21/2012	N/A	790	-5		-72	67	1.675	13	-88	18	-16	
75	192	10/22/2012	791	791	-1	-1	-73	72	1.8	12	-89	13	-16	
76	193	10/23/2012	791	792	-1	-1	-73	72	1.8	14	-88	15	-15	
77	193	10/24/2012	793	792	0	-1	-71	71	1.775	14	-88	14	-17	
78	194	10/25/2012	794	793	0	0	-71	71	1.775	13	-87	13	-16	
79	195	10/26/2012	795.5	795	-1	-2	-73	72	1.8	13	-89	14	-16	
80	195	10/27/2012	797	796	-3	-1	-70	67	1.675	14	-86	17	-16	
81	196	10/28/2012	799	798	-2	-1.5	-72	70	1.75	13	-87	15	-15	
82	196	10/29/2012	798	799	0	-0.4	-72	72	1.8	13	-88	13	-16	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
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M-10

83	197	10/30/2012	800.51	801	0	-0.5	-72	72	1.8	15	-88	15	-16	
84	198	10/31/2012	800	801	0	-0.5	-70	70	1.75	15	-86	15	-16	
85	198	11/1/2012	805	805	-1	-0.9	-71	70	1.75	14	-86	15	-15	
86	199	11/2/2012	808	808	-4	-4	-71	67	1.675	15	-86	19	-15	
87	199	11/3/2012	808.7	808	-2	-4	-70	68	1.7	15	-86	17	-16	
88	200	11/4/2012	N/A	811	-2		-70	68	1.7	15	-87	17	-17	
89	201	11/5/2012	813.25	813	-1	-1	-73	72	1.8	15	-87	16	-14	
90	201	11/6/2012	814	813	0	-0.4	-71	71	1.775	16	-84	16	-13	
91	202	11/7/2012	818	817	-1	-0.8	-74	73	1.825	15	-86	16	-12	
92	202	11/8/2012	820.29	820	-1	0	-74	73	1.825	15	-87	16	-13	
93	203	11/9/2012	N/A	819	-1		-72	71	1.775	15	-86	16	-14	
94	204	11/10/2012	822.43	822	0		-70	70	1.75	15	-86	15	-16	
95	204	11/11/2012	815.53	822	0		-68	68	1.7	14	-84	14	-16	
96	205	11/12/2012	827	826	2	2	-71	73	1.825	15	-84	13	-13	
97	206	11/13/2012	828	828	-3		-68	65	1.625	14	-83	17	-15	
98	206	11/14/2012	829	828	-1		-68	67	1.675	15	-83	16	-15	
99	207	11/15/2012	829.59	829	-1	-1	-68	67	1.675	13	-80	14	-12	
100	207	11/16/2012	N/A	829	-1		-66	65	1.625	13	-81	14	-15	
101	208	11/17/2012	N/A	830	-2		-65	63	1.575	15	-81	17	-16	
102	209	11/18/2012	833.41	833	-3	8	-67	64	1.6	17	-80	20	-13	
103	209	11/19/2012	N/A	836	-3		-66	63	1.575	18	-85	21	-19	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
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M-11

104	210	11/20/2012	839	838	-5	4.7	-67	62	1.55	17	-83	22	-16	
105	211	11/21/2012	N/A	839	-6		-66	60	1.5	17	-81	23	-15	
106	211	11/23/2012	N/A	841	-8		-66	58	1.45	17	-82	25	-16	
107	212	11/24/2012	N/A	844	-5		-66	61	1.525	16	-84	21	-18	
108	212	11/25/2012	847	845	-4	5	-65	61	1.525	16	-82	20	-17	
109	213	11/26/2012	N/A	844	-3		-64	61	1.525	16	-82	19	-18	
110	214	11/27/2012	N/A	848	-5		-65	60	1.5	17	-82	22	-17	
111	214	11/28/2012	N/A	849	-4		-66	62	1.55	17	-81	21	-15	
112	215	11/29/2012	852	852	-8	5	-65	57	1.425	18	-83	26	-18	
113	216	11/30/2012	850	857	-6	3	-66	60	1.5	15	-81	21	-15	
114	216	12/1/2012	857	857	-6	3	-69	63	1.575	18	-82	24	-13	
115	217	12/2/2012	857.26	857	-8	1	-66	58	1.45	16	-82	24	-16	
116	217	12/3/2012	857	859	-6	5	-67	61	1.525	17	-82	23	-15	
117	218	12/4/2012	862	861	-5	3.45	-66	61	1.525	18	-80	23	-14	
118	219	12/5/2012	864	864	-6	4.53	-65	59	1.475	18	-81	24	-16	
119	219	12/6/2012	866.3	866	-6	3.12	-66	60	1.5	18	-82	24	-16	
120	220	12/7/2012	867.5	867	-3	5.91	-67	64	1.6	16	-83	19	-16	
121	221	12/8/2012	865.4	869	0	1.31	-66	66	1.65	9	-71	9	-5	
122	221	12/9/2012	N/A	869	-3		-65	62	1.55	3	-70	6	-5	
123	222	12/10/2012	875.96	875	-10	2.1	-66	56	1.4	2	-65	12	1	
124	223	12/11/2012	876.84	876	-5	5.4	-66	61	1.525	5	-67	10	-1	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-12

125	223	12/12/2012	875.25	880	-5	3.4	-68	63	1.575	6	-69	11	-1	
126	224	12/13/2012	880	880	-4	-5	-66	62	1.55	6	-75	10	-9	
127	224	12/14/2012	884	884	-1		-67	66	1.65	7	-75	8	-8	
128	225	12/15/2012	884	883	-3	-4	-67	64	1.6	6	-73	9	-6	
129	226	12/16/2012	894	886	-2	-4	-65	63	1.575	5	-73	7	-8	
130	226	12/17/2012	889	888	-9	-6	-65	56	1.4	5	-73	14	-8	
131	227	12/18/2012	888	889	-8	-7	-65	57	1.425	5	-73	13	-8	
132	228	12/19/2012	892.84	890	-6	-6.8	-65	59	1.475	4	-73	10	-8	
133	228	12/20/2012	891.21	891	1	0.6	-65	66	1.65	5	-72	4	-7	
134	229	12/21/2012	893.99	893	-1	-0.62	-67	66	1.65	7	-78	8	-11	
135	230	12/22/2012	894.34	894	-5	-4.66	-65	60	1.5	8	-76	13	-11	
136	230	12/23/2012	N/A	897	-1		-65	64	1.6	7	-78	8	-13	
137	231	12/24/2012	N/A	896	-1		-64	63	1.575	7	-75	8	-11	
138	232	12/25/2012	N/A	899	-1		-65	64	1.6	7	-75	8	-10	
139	232	12/26/2012	N/A	899	0		-66	66	1.65	8	-75	8	-9	
140	233	12/27/2012	N/A	903	-2		-66	64	1.6	7	-76	9	-10	
141	233	12/28/2012	N/A	904	-2		-64	62	1.55	7	-76	9	-12	
142	234	12/29/2012	N/A	906	0		-65	65	1.625	8	-77	8	-12	
143	235	12/31/2012	N/A	908	-2	-3	-63	61	1.525	8	-76	10	-13	
144	235	1/1/2013	N/A	907	2		-64	66	1.65	7	-75	5	-11	
145	236	1/2/2013	908	909	-1	-2	-64	63	1.575	6	-74	7	-10	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-13

146	237	1/3/2013	N/A	908	-1		-65	64	1.6	7	-76	8	-11	
147	237	1/4/2013	N/A	914	0		-65	65	1.625	5	-76	5	-11	
148	238	1/5/2013	N/A	912	3		-65	68	1.7	5	-74	2	-9	
149	239	1/6/2013	914	914	0	3	-65	65	1.625	4	-75	4	-10	
150	239	1/7/2013	913	913	-3	2	-64	61	1.525	5	-77	8	-13	
151	240	1/8/2013	915	915	-3		-65	62	1.55	4	-73	7	-8	
152	241	1/9/2013	914.5	914	1	3.85	-63	64	1.6	5	-73	4	-10	
153	241	1/10/2013	916	915	1	3	-65	66	1.65	4	-74	3	-9	
154	242	1/11/2013	917.7	917	-2	1.45	-65	63	1.575	4	-76	6	-11	
155	243	1/12/2013	917.5	917	0	2.15	-64	64	1.6	4	-74	4	-10	
156	243	1/13/2013	917.7	922	0	2	-65	65	1.625	4	-77	4	-12	
157	244	1/14/2013	920.7	920	-2	1.75	-64	62	1.55	5	-75	7	-11	
158	245	1/15/2013	922.99	922	-3	3	-66	63	1.575	3	-74	6	-8	
159	245	1/16/2013	918.47	918	-4	3.51	-65	61	1.525	4	-75	8	-10	
160	246	1/17/2013	919.82	919	-3		-67	64	1.6	5	-75	8	-8	
161	246	1/18/2013	920.3	919	-2	0	-65	63	1.575	5	-75	7	-10	
162	247	1/19/2013	920	919	-1	1	-65	64	1.6	7	-77	8	-12	
163	248	1/20/2013	920	919	-1	0	-65	64	1.6	5	-75	6	-10	
164	248	1/21/2013	919.46	919	-1	0	-64	63	1.575	7	-71	8	-7	
165	249	1/22/2013	923.09	922	-3	0	-65	62	1.55	4	-72	7	-7	
166	250	1/23/2013	922	922	-5	3	-65	60	1.5	3	-71	8	-6	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-14

167	250	1/24/2013	921	920	-3	4	-65	62	1.55	5	-73	8	-8	
168	251	1/25/2013	924	923	1	5	-66	67	1.675	6	-73	5	-7	
169	252	1/26/2013	923	922	0	4	-66	66	1.65	5	-74	5	-8	
170	252	1/27/2013	N/A	925	0		-66	66	1.65	5	-73	5	-7	
171	253	1/28/2013	N/A	925	1	6	-67	68	1.7	5	-75	4	-8	
172	254	1/29/2013	925	923	0	6	-67	67	1.675	6	-74	6	-7	
173	254	1/30/2013	924	920	0	5	-67	67	1.675	5	-75	5	-8	
174	255	1/31/2013	924.7	921	0	5	-67	67	1.675	7	-75	7	-8	
175	256	2/1/2013	N/A	921	-4		-68	64	1.6	5	-74	9	-6	
176	256	2/2/2013	919	920	0	5	-67	67	1.675	5	-73	5	-6	
177	257	2/3/2013	922.35	921	-1	5.2	-66	65	1.625	5	-73	6	-7	
178	258	2/4/2013	921.31	920	-2		-66	64	1.6	5	-74	7	-8	
179	258	2/6/2013	920	920	-7	5	-66	59	1.475	4	-77	11	-11	
180	259	2/7/2013	NR	919	-1	4	-67	66	1.65	5	-74	6	-7	
181	260	2/8/2013	921.96	918	1	N/A	-67	68	1.7	5	-74	4	-7	
182	260	2/9/2013	N/A	921	0	6	-67	67	1.675	7	-75	7	-8	
183	261	2/10/2013	920	921	-1		-67	66	1.65	5	-76	6	-9	
184	261	2/11/2013	923	923	0	3	-67	67	1.675	5	-75	5	-8	
185	263	2/12/2013	N/A	923	-5	4	-67	62	1.55	7	-76	12	-9	
186	263	2/13/2013	N/A	922		4	-66	64	1.6	4	-75	6	-9	
187	264	2/14/2013	920.5	921	-1	6	-67	66	1.65	6	-77	7	-10	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-15

188	264	2/15/2013	920	920	-3	2	-68	65	1.625	6	-75	9	-7	
189	265	2/16/2013	921.09	920	-2		-68	66	1.65	5	-75	7	-7	
190	265	2/17/2013	918	917	-3		-66	63	1.575	6	-76	9	-10	
191	266	2/18/2013	921	921	-3		-67	64	1.6	6	-75	9	-8	
192	267	2/19/2013	940	N/A	-16		-68	52	1.3	7	-1	23	67	WAS 940 Pa ON INTERIM
193	267	2/20/2013	N/A	N/A	NO REPORT			NO REPORT	NO REPORT			#VALUE!	0	
194	268	2/21/2013	N/A	N/A	NO REPORT			NO REPORT	NO REPORT			NO REPORT	0	
195	269	2/22/2013	886	N/A	1		-53	54	1.35	4	-61	3	-8	WAS 886 ON INTERIM
196	269	2/23/2013	N/A	916	-3		-66	63	1.575	6	-74	9	-8	
197	270 Summer	2/24/2013	915.8	915	-3		-68	65	1.625	5	-75	8	-7	SUMMER AT SOUTH POLE
198	271	2/25/2013	914.34	914	-2	5	-67	65	1.625	5	-74	7	-7	
199	271	2/26/2013	917	917	0	6	-66	66	1.65	3	-75	3	-9	
200	272	2/27/2013	937	N/A	-21		-68	47	1.175	2	-75	23	-7	WAS 937 Pa ON INTERIM
201		2/28/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
202		3/1/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
203		3/2/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
204		3/3/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
205		3/4/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
206		3/5/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
207		3/6/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-16

208		3/7/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
209		3/8/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
210		3/9/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
211		3/10/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
212		3/11/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
213		3/12/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
214		3/13/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
215	281	3/15/2013	874	N/A	-4		-28	24	0.6	7	-4	11	24	WAS 874 Pa ON INTERIM
216		3/16/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
217		3/17/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
218		3/18/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
219		3/19/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
220		3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
221		3/21/2013	918	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
222	286	3/22/2013	868	N/A	-3		-54	51	1.275	6	-59	9	-5	WAS 868 Pa ON INTERIM
223	287	3/23/2013	895	895	-5		-71	66	1.65	6	-76	11	-5	
224	287	3/24/2013	N/A	894	-1	3	-69	68	1.7	6	-76	7	-7	
225	288	3/25/2013	894.65	894	-8	1	-71	63	1.575	6	-76	14	-5	
226	288	3/26/2013	892.9	894	1	4	-70	71	1.775	5	-75	4	-5	
227	289	3/27/2013	894.27	892	4	5	-70	74	1.85	6	-76	2	-6	
228	290	3/28/2013	894.6	894	3	2	-71	74	1.85	7	-75	4	-4	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-17

229	290	3/29/2013	N/A	894	-4	1	-69	65	1.625	6	-74	10	-5	
230	291	3/30/2013	890.7	888	0		-69	69	1.725	6	-76	6	-7	
231	292	3/31/2013	888.32	890	-6	2	-71	65	1.625	6	-77	12	-6	
232	292	4/1/2013	890.2	888	-5	2	-69	64	1.6	6	-76	11	-7	
233	293	4/2/2013	889.18	889	-3	5	-69	66	1.65	6	-77	9	-8	
234	293	4/3/2013	890	890	-4		-69	65	1.625	5	-77	9	-8	
235	294	4/4/2013	N/A	886	0		-70	70	1.75	6	-77	6	-7	
236	295	4/5/2013	N/A	886	-3		-72	69	1.725	6	-76	9	-4	
237	295	4/6/2013	N/A	883	-5		-71	66	1.65	5	-77	10	-6	
238	296	4/7/2013	N/A	885	-2		-70	68	1.7	6	-76	8	-6	
239	297	4/8/2013	N/A	885	-1		-73	72	1.8	5	-77	6	-4	
240	297	4/9/2013	N/A	884	-6		-70	64	1.6	5	-76	11	-6	
241	298	4/10/2013	N/A	884	0		-72	72	1.8	4	-77	4	-5	
242	298	4/11/2013	N/A	881	-7		-70	63	1.575	6	-77	13	-7	
243	299	4/12/2013	N/A	884	-7		-71	64	1.6	5	-77	12	-6	
244	300	4/13/2013	N/A	878	-6		-69	63	1.575	6	-76	12	-7	
245	300	4/14/2013	N/A	879	-6		-70	64	1.6	5	-76	11	-6	
246	301	4/15/2013	N/A	878	-1		-73	72	1.8	6	-77	7	-4	
247	301	4/16/2013	N/A	873	-4		-71	67	1.675	5	-77	9	-6	
248	302	4/17/2013	N/A	877	-4		-70	66	1.65	3	-75	7	-5	
249	303	4/18/2013	N/A	873	-3		-69	66	1.65	4	-77	7	-8	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-18

250	303	4/19/2013	N/A	877	-2		-70	68	1.7	4	-76	6	-6	
251	304	4/20/2013	N/A	876	-2		-71	69	1.725	6	-77	8	-6	
252	304	4/22/2013	N/A	874	-8		-71	63	1.575	5	-77	13	-6	
253	305	4/23/2013	N/A	877	-6		-71	65	1.625	4	-77	10	-6	
254	306	4/24/2013	N/A	871	-3		-70	67	1.675	4	-77	7	-7	
255	306	4/25/2013	N/A	877	-5		-69	64	1.6	5	-77	10	-8	
256	307	4/26/2013	N/A	871	-2		-70	68	1.7	4	-77	6	-7	
257	308	4/27/2013	N/A	871	-1		-70	69	1.725	4	-77	5	-7	
258	308	4/28/2013	N/A	869	-9		-71	62	1.55	5	-77	14	-6	
259	309	4/29/2013	N/A	871	-3		-72	69	1.725	5	-77	8	-5	
260	309	4/30/2013	N/A	875	-11		-70	59	1.475	2	-76	13	-6	
261	310	5/1/2013	868.05	868	-4		-70	66	1.65	4	-77	8	-7	
262	311	5/2/2013	900	N/A	-22		-71	49	1.225	-2	-76	20	-5	WAS 900 Pa ON INTERIM
263		5/3/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
264		5/4/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
265		5/5/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
266		5/6/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
267	313	5/7/2013	864	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
268	314	5/8/2013	864.3	864	-5		-70	65	1.625	2	-75	7	-5	
269	315	5/9/2013	866.21	866	-3		-70	67	1.675	2	-74	5	-4	
270	315	5/10/2013	N/A	863	-6		-67	61	1.525	1	-75	7	-8	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-19

271	316	5/11/2013	N/A	864	-6		-69	63	1.575	2	-74	8	-5	
272	316	5/12/2013	N/A	864	-5		-71	66	1.65	-2	-76	3	-5	
273	317	5/13/2013	N/A	861	-4		-70	66	1.65	-2	-71	2	-1	
274	318	5/14/2013	865	861	-1		-68	67	1.675	-2	-72	-1	-4	
275	318	5/15/2013	N/A	860	-6		-67	61	1.525	-2	-72	4	-5	
276	319	5/16/2013	864	858	-4		-69	65	1.625	-1	-74	3	-5	
277	319	5/17/2013	N/A	857	-4		-69	65	1.625	-2	-73	2	-4	
278	320	5/18/2013	856.28	855	-3		-67	64	1.6	-2	-71	1	-4	
279	321	5/19/2013	856	856	-5		-68	63	1.575	-2	-71	3	-3	
280	321	5/20/2013	855	856	-4		-69	65	1.625	0	-74	4	-5	
281	322	5/21/2013	855.5	855	-2		-68	66	1.65	-1	-73	1	-5	
282	322	5/22/2013	N/A	856	-2		-72	70	1.75	-1	-74	1	-2	
283	323	5/23/2013	855.88	854	-4		-68	64	1.6	0	-74	4	-6	
284	323	5/24/2013	N/A	854	-3		-71	68	1.7	-2	-74	1	-3	
285	324	5/25/2013	852	852	-5		-70	65	1.625	0	-75	5	-5	
286	325	5/26/2013	N/A	854	-2		-71	69	1.725	-1	-74	1	-3	
287	325	5/27/2013	853.68	856	-3		-72	69	1.725	-2	-73	1	-1	
288	326	5/29/2013	854.2	854	-4		-69	65	1.625	-1	-74	3	-5	
289	326	5/30/2013	N/A	854	-3		-71	68	1.7	-1	-74	2	-3	
290	327	5/31/2013	850	853	-3		-71	68	1.7	-1	-75	2	-4	
291	327	6/1/2013	N/A	853	-4		-70	66	1.65	-1	-74	3	-4	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-20

292	328	6/2/2013	N/A	853	-1		-71	70	1.75	-2	-75	-1	-4	
293	329	6/3/2013	850	850	-4		-72	68	1.7	0	-76	4	-4	
294	329	6/4/2013	852	852	-4		-72	68	1.7	-1	-76	3	-4	
295	330	6/5/2013	852	853	-15		-71	56	1.4	-2	-75	13	-4	
296	330	6/6/2013	850	850	-9		-71	62	1.55	0	-77	9	-6	
297	331	6/7/2013	N/A	849	-7		-72	65	1.625	1	-77	8	-5	
298	331	6/8/2013	N/A	850	-3		-72	69	1.725	2	-80	5	-8	
299	332	6/9/2013	851	849	-9		-71	62	1.55	-2	-80	7	-9	
300	333	6/10/2013	852	852	-8		-72	64	1.6	-3	-78	5	-6	
301	334	6/11/2013	N/A	852	-6		-73	67	1.675	-5	-76	1	-3	
302	334	6/12/2013	N/A	850	-3		-71	68	1.7	0	-73	3	-2	
303	334	6/13/2013	N/A	849	-8		-71	63	1.575	1	-78	9	-7	
304	335	6/14/2013	N/A	848	-6		-70	64	1.6	1	-77	7	-7	
305	335	6/15/2013	N/A	847	-5		-71	66	1.65	1	-78	6	-7	
306	336	6/16/2013	N/A	848	-8		-71	63	1.575	1	-79	9	-8	
307	336	6/17/2013	N/A	851	-8		-72	64	1.6	-4	-79	4	-7	
308	337	6/18/2013	N/A	850	-5		-73	68	1.7	-2	-73	3	0	
309	338	6/19/2013	N/A	848	-7		-72	65	1.625	-3	-75	4	-3	
310	338	6/20/2013	N/A	849	-9		-118	109	2.725	-2	-73	7	45	Air low changed to -71
311	339	6/21/2013	N/A	846	-8		-74	66	1.65	-3	-74	5	0	
312	340	6/22/2013	N/A	845	-11		-71	60	1.5	-2	-74	9	-3	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-21

313	340	6/23/2013	N/A	849	-14		-77	63	1.575	1	-74	15	3	
314	340	6/24/2013	N/A	848	-11		-73	62	1.55	2	-77	13	-4	
315	341	6/25/2013	N/A	850	-10		-74	64	1.6	2	-77	12	-3	
316	341	6/26/2013	N/A	851	-16		-74	58	1.45	2	-77	18	-3	
317	342	6/27/2013	N/A	849	-4		-72	68	1.7	1	-77	5	-5	
318	342	6/28/2013	N/A	848	-4		-72	68	1.7	2	-82	6	-10	
319	343	6/29/2013	N/A	847	-3		-73	70	1.75	4	-80	7	-7	
320	344	6/30/2013	N/A	846	-4		-71	67	1.675	3	-77	7	-6	
321	344	7/1/2013	N/A	847	-5		-75	70	1.75	2	-80	7	-5	
322	345	7/2/2013	N/A	849	-5		-74	69	1.725	3	-80	8	-6	
323	345	7/3/2013	N/A	847	-6		-74	68	1.7	3	-82	9	-8	
324	346	7/4/2013	N/A	850	-8		-75	67	1.675	7	-84	15	-9	
325	346	7/6/2013	N/A	847	-8	N/A	-74	66	1.65	7	-85	15	-11	
326	347	7/7/2013	N/A	848	-5	N/A	-72	67	1.675	5	-85	10	-13	
327	347	7/8/2013	N/A	848	-8	N/A	-74	66	1.65	6	-84	14	-10	
328	348	7/9/2013	N/A	847			-75	75	1.875	7	-91	7	-16	
329	348	7/10/2013	N/A	847	-7		-74	67	1.675	6	-93	13	-19	
330	349	7/11/2013	N/A	848	-5		-75	70	1.75	7	-91	12	-16	
331	349	7/12/2013	N/A	848	-3	N/A	-74	71	1.775	5	-90	8	-16	
332	350	7/13/2013	N/A	849	-5	N/A	-76	71	1.775	3	-88	8	-12	
333	350	7/14/2013	N/A	849	-5		-75	70	1.75	2	-89	7	-14	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-22

334	351	7/15/2013	N/A	852	-6	N/A	-74	68	1.7	-1	-83	5	-9	
335	352	7/16/2013	N/A	852	-7	N/A	-76	69	1.725	4	-85	11	-9	
336	352	7/17/2013	N/A	852	-8	N/A	-76	68	1.7	4	-88	12	-12	
337	353	7/18/2013	N/A	853	-7	N/A	-75	68	1.7	3	-88	10	-13	
338	353	7/19/2013	N/A	848	-7	N/A	-78	71	1.775	2	-86	9	-8	
339	354	7/20/2013	N/A	849	-8	N/A	-76	68	1.7	2	-86	10	-10	
340	354	7/21/2013	N/A	851	-6	N/A	-76	70	1.75	4	-84	10	-8	
341	354	7/22/2013	N/A	852	-6	N/A	-77	71	1.775	3	-88	9	-11	
342	355	7/23/2013	N/A	851	-7	N/A	-76	69	1.725	2	-89	9	-13	
343	356	7/24/2013	N/A	850	-11	N/A	-77	66	1.65	2	-86	13	-9	
344	356	7/25/2013	N/A	851	-6	N/A	-77	71	1.775	2	-86	8	-9	
345	357	7/26/2013	N/A	853	-7	N/A	-77	70	1.75	2	-87	9	-10	
346	357	7/27/2013	N/A	853	-7	N/A	-76	69	1.725	1	-86	8	-10	
347	358	7/28/2013	N/A	851	-9	N/A	-77	68	1.7	1	-87	10	-10	
348	358	7/29/2013	N/A	850	-8	N/A	-74	66	1.65	1	-85	9	-11	
349	359	7/30/2013	N/A	852	-12	N/A	-75	63	1.575	-2	-86	10	-11	
350	359	7/31/2013	N/A	853	-6	N/A	-76	70	1.75	-1	-82	5	-6	
351	0 Fall	8/1/2013	N/A	853	-12	N/A	-75	63	1.575	-4	-82	8	-7	
352	0 Fall	8/2/2013	N/A	854	-9	N/A	-77	68	1.7	-3	-79	6	-2	
353	1	8/3/2013	N/A	855	-8	N/A	-75	67	1.675	-5	-80	3	-5	
354	1	8/4/2013	N/A	857	-13	N/A	-75	62	1.55	-2	-80	11	-5	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-23

355	2	8/5/2013	N/A	857	-7	N/A	-75	68	1.7	-1	-86	6	-11	
356	2	8/6/2013	N/A	856	-7	N/A	-77	70	1.75	-2	-83	5	-6	
357	3	8/7/2013	N/A	857	-7	N/A	-76	69	1.725	-2	-83	5	-7	
358	3	8/8/2013	N/A	N/A	-8	N/A	-75	67	1.675	-1	-83	7	-8	
359	4	8/9/2013	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	INTERIM WAS 870 Pa
360	4	8/10/2013	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
361	5	8/11/2013	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
362	5	8/12/2013	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
363	6	8/13/2013	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
364	6	8/14/2013	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
365	7	8/16/2013	839	N/A	-13	N/A	-62	49	1.225	0	-70	13	-8	INTERIM WAS 839 Pa
366	7	8/17/2013	N/A	861	-12	N/A	-76	64	1.6	-3	-87	9	-11	
367	8	8/18/2013	N/A	862	-9	N/A	-76	67	1.675	-3	-86	6	-10	
368	8	8/19/2013	N/A	863	-9	N/A	-77	68	1.7	-3	-86	6	-9	
369	9	8/20/2013	N/A	865	-9	N/A	-75	66	1.65	2	-84	11	-9	
370	9	8/21/2013	1149	865	-9	N/A	-79	70	1.75	-2	-85	7	-6	INTERIM WAS 1149 Pa
371	10	8/22/2013	N/A	865	-11	N/A	-77	66	1.65	-4	-80	7	-3	
372	10	8/23/2013	N/A	866	-9	N/A	-76	67	1.675	-1	-87	8	-11	
373	11	8/24/2013	N/A	866	-8	N/A	-79	71	1.775	-1	-91	7	-12	
374	11	8/25/2013	N/A	866	-9	N/A	-79	70	1.75	-1	-89	8	-10	
375	12	8/26/2013	N/A	867	-9	N/A	-77	68	1.7	-2	-88	7	-11	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-24

376	12	8/27/2013	N/A	870	-11	N/A	-77	66	1.65	-3	-88	8	-11	
377	13	8/28/2013	N/A	870	-12	N/A	-78	66	1.65	0	-91	12	-13	
378	13	8/29/2013	N/A	869	-18	N/A	-78	60	1.5	-5	-85	13	-7	
379	14	8/30/2013	N/A	870	-12	N/A	-79	67	1.675	-12	-89	0	-10	
380	14	8/31/2013	N/A	870	-13	N/A	-79	66	1.65	-5	-87	8	-8	
381	15	9/1/2013	N/A	871	-13	N/A	-79	66	1.65	-4	-86	9	-7	
382	15	9/2/2013	N/A	872	-14	N/A	-76	62	1.55	-5	-86	9	-10	
383	16	9/3/2013	N/A	874	-12	N/A	-77	65	1.625	-7	-86	5	-9	
384	16	9/4/2013	N/A	875	-12	N/A	-77	65	1.625	-5	-89	7	-12	
385	17	9/5/2013	N/A	874	-12	N/A	-78	66	1.65	-4	-86	8	-8	
386	17	9/6/2013	N/A	873	-12	N/A	-77	65	1.625	-8	-82	4	-5	
387	18	9/7/2013	N/A	874	-13	N/A	-78	65	1.625	-8	-83	5	-5	
388	18	9/8/2013	N/A	875	-13	N/A	-79	66	1.65	-7	-84	6	-5	
389	19	9/9/2013	N/A	875	-14	N/A	-79	65	1.625	-8	-82	6	-3	
390	19	9/10/2013	N/A	875	-16	N/A	-78	62	1.55	-2	-84	14	-6	
391	20	9/11/2013	N/A	875	-17	N/A	-78	61	1.525	-10	-80	7	-2	
392	20	9/12/2013	N/A	876	-17	N/A	-77	60	1.5	-5	-78	12	-1	
393	21	9/13/2013	N/A	877	-18	N/A	-76	58	1.45	-5	-83	13	-7	
394	21	9/14/2013	N/A	878	-18	N/A	-79	61	1.525	-5	-84	13	-5	
395	22	9/15/2013	N/A	878	-20	N/A	-77	57	1.425	-5	-84	15	-7	
396	22	9/16/2013	N/A	879	-15	N/A	-78	63	1.575	-5	-85	10	-7	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-25

397	23	9/18/2013	N/A	880	-15	N/A	-75	60	1.5	-8	-83	7	-8	
398	23	9/19/2013	N/A	880	-14	N/A	-79	65	1.625	-7	-84	7	-5	
399	24	9/20/2013	N/A	881	-16	N/A	-79	63	1.575	-5	-84	11	-5	
400	24	9/21/2013	N/A	881	-16	N/A	-79	63	1.575	-6	-85	10	-6	
401	25	9/22/2013	N/A	882	-15	N/A	-79	64	1.6	-6	-85	9	-6	
402	25	9/23/2013	N/A	883	-18	N/A	-78	60	1.5	-4	-85	14	-7	
403	25	9/24/2013	N/A	883	-18	N/A	-80	62	1.55	-6	-95	12	-15	
404	26	9/25/2013	N/A	884	-20	N/A	-78	58	1.45	-7	-91	13	-13	
405	26	9/26/2013	N/A	885	-25	N/A	-82	57	1.425	-7	-93	18	-11	
406	27	9/27/2013	N/A	886	-15	N/A	-85	70	1.75	0	-91	15	-6	
407	27	9/28/2013	N/A	887	-17	N/A	-81	64	1.6	-1	-101	16	-20	
408	28	9/29/2013	N/A	887	-16	N/A	-80	64	1.6	0	-102	16	-22	
409	28	9/30/2013	N/A	887	-17	N/A	-81	64	1.6	-3	-101	14	-20	
410	29	10/1/2013	N/A	888	-14	N/A	-81	67	1.675	-8	-89	6	-8	
411	29	10/2/2013	N/A	887	-17	N/A	-82	65	1.625	-9	-86	8	-4	
412	30	10/3/2013	N/A	888	-22	N/A	-80	58	1.45	-3	-84	19	-4	
413	30	10/4/2013	N/A	888	-22	N/A	-82	60	1.5	-3	-85	19	-3	
414	31	10/5/2013	N/A	889	-18	N/A	-79	61	1.525	-5	-93	13	-14	
415	31	10/6/2013	N/A	890	-19	N/A	-82	63	1.575	-5	-91	14	-9	
416	32	10/7/2013	N/A	889	-18	N/A	-79	61	1.525	-6	-89	12	-10	
417	32	10/8/2013	N/A	890	-21	N/A	-82	61	1.525	-3	-93	18	-11	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-26

418	33	10/9/2013	N/A	891	-21	N/A	-79	58	1.45	-3	-92	18	-13	
419	33	10/10/2013	N/A	891	-24	N/A	-82	58	1.45	-6	-93	18	-11	
420	33	10/11/2013	N/A	892	-19	N/A	-80	61	1.525	-7	-91	12	-11	
421	34	10/12/2013	N/A	891	-24	N/A	-81	57	1.425	-8	-91	16	-10	
422	34	10/13/2013	N/A	891	-20	N/A	-82	62	1.55	-8	-90	12	-8	
423	35	10/14/2013	N/A	892	-24	N/A	-81	57	1.425	-12	-86	12	-5	
424	35	10/15/2013	N/A	893	-22	N/A	-81	59	1.475	-5	-87	17	-6	
425	36	10/16/2013	N/A	893	-21	N/A	-81	60	1.5	-6	-93	15	-12	
426	36	10/17/2013	N/A	893	-22	N/A	-79	57	1.425	-6	-95	16	-16	
427	37	10/18/2013	N/A	893	-21	N/A	-81	60	1.5	-5	-93	16	-12	
428	37	10/19/2013	N/A	894	-23	N/A	-81	58	1.45	-7	-93	16	-12	
429	38	10/20/2013	902	895	-21	N/A	-82	61	1.525	-6	-92	15	-10	INTERIM WAS 902 Pa
430	38	10/21/2013	N/A	896	-24	N/A	-82	58	1.45	-6	-94	18	-12	
431	39	10/22/2013	N/A	895	-24	N/A	-83	59	1.475	-10	-93	14	-10	
432	39	10/23/2013	N/A	896	-26	N/A	-82	56	1.4	-9	-88	17	-6	
433	40	10/24/2013	N/A	895	-26	N/A	-81	55	1.375	-11	-92	15	-11	
434	40	10/25/2013	N/A	896	-25	N/A	-80	55	1.375	-11	-83	14	-3	
435	40	10/26/2013	N/A	897	-24	N/A	-81	57	1.425	-9	-83	15	-2	
436	41	10/27/2013	N/A	897	-24	N/A	-81	57	1.425	-8	-86	16	-5	
437	41	10/28/2013	N/A	898	-27	N/A	-82	55	1.375	-11	-95	16	-13	
438	42	10/29/2013	N/A	899	-26	N/A	-79	53	1.325	-15	-89	11	-10	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-27

439	42	10/30/2013	N/A	899	-21	N/A	-80	59	1.475	-16	-84	5	-4	
440	43	10/31/2013	N/A	899	-25	N/A	-80	55	1.375	-12	-84	13	-4	
441	43	11/1/2013	N/A	900	-23	N/A	-81	58	1.45	-11	-84	12	-3	
442	44	11/2/2013	N/A	900	-22	N/A	-80	58	1.45	-10	-84	12	-4	
443	44	11/3/2013	N/A	901	-24	N/A	-81	57	1.425	-12	-84	12	-3	
444	45	11/4/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
445	45	11/5/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
446	46	11/6/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
447	46	11/7/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
448	47	11/8/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
449	47	11/9/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
450	48	11/10/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
451	48	11/11/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
452	49	11/12/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
453	49	11/13/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
454	50	11/14/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
455	50	11/16/2013	N/A	905	-28	N/A	-84	56	1.4	-12	-84	16	0	
456	50	11/17/2013	N/A	905	-26	N/A	-83	57	1.425	-12	-89	14	-6	
457	51	11/18/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
458	51	11/19/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
459	52	11/20/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-28

460	52	11/21/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
461	53	11/22/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
462	53	11/23/2013	887	N/A	-28	N/A	-74	46	1.15	-12	-78	16	-4	INTERIM WAS 887 Pa
463	53	11/24/2013	N/A	906	-26	N/A	-86	60	1.5	-13	-88	13	-2	
464	54	11/25/2013	N/A	906	-26	N/A	-84	58	1.45	-13	-87	13	-3	
465	54	11/26/2013	N/A	906	-23	N/A	-85	62	1.55	-13	-85	10	0	
466	55	11/27/2013	N/A	907	-26	N/A	-85	59	1.475	-12	-84	14	1	
467	55	11/28/2013	N/A	907	-28	N/A	-84	56	1.4	-11	-85	17	-1	
468	55	11/29/2013	N/A	907	-29	N/A	-85	56	1.4	-14	-86	15	-1	
469	56	11/30/2013	N/A	908	-29	N/A	-85	56	1.4	-12	-86	17	-1	
470	56	12/1/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
471	57	12/2/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
472	57	12/4/2013	N/A	907	-31	N/A	-84	53	1.325	-10	-86	21	-2	
473	58	12/5/2013	N/A	907	-29	N/A	-86	57	1.425	-8	-90	21	-4	
474	58	12/6/2013	N/A	906	-26	N/A	-84	58	1.45	-9	-95	17	-11	
475	59	12/7/2013	N/A	906	-28	N/A	-85	57	1.425	-9	-93	19	-8	
476	59	12/8/2013	N/A	906	-25	N/A	-85	60	1.5	-7	-90	18	-5	
477	60	12/9/2013	N/A	907	-26	N/A	-85	59	1.475	-9	-93	17	-8	
478	60	12/10/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
479	61	12/11/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
480	61	12/12/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-29

481	62	12/13/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
482	62	12/14/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
483	63	12/15/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
484	63	12/16/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
485	63	12/17/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
486	64	12/18/2013	N/A	904	-31	N/A	-110	79	1.975	-12	-91	19	19	low changed to -84
487	64	12/19/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
488	64	12/20/2013	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
489	65	12/21/2013	N/A	904	-29	N/A	-103	74	1.85	-11	-88	18	15	
490	65	12/22/2013	N/A	904	-31	N/A	-87	56	1.4	-12	-88	19	-1	
491	66	12/23/2013	N/A	903	-30	N/A	-86	56	1.4	-13	-87	17	-1	
492	66	12/24/2013	N/A	903	-30	N/A	-86	56	1.4	-13	-92	17	-6	
493	67	12/25/2013	N/A	902	-32	N/A	-84	52	1.3	-14	-89	18	-5	
494	67	12/26/2013	N/A	902	-24	N/A	-85	61	1.525	-9	-87	15	-2	
495	68	12/27/2013	N/A	900	-26	N/A	-86	60	1.5	-10	-88	16	-2	
496	68	12/28/2013	N/A	901	-26	N/A	-85	59	1.475	-10	-88	16	-3	
497	69	12/29/2013	N/A	901	-30	N/A	-86	56	1.4	-9	-87	21	-1	
498	69	12/30/2013	N/A	901		N/A	-86	58	1.45	-10	-90	18	-4	
499	69	12/31/2013	N/A	899		N/A	-84	54	1.35	-9	-90	21	-6	
500	70	1/1/2014	N/A	897		N/A	-85	62	1.55	-11	-88	12	-3	
501	70	1/2/2014	N/A	898		N/A	-125	97	2.425	-10	-88	18	37	low changed to -83

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-30

502	71	1/3/2014	N/A	898	-30	N/A	-87	57	1.425	-8	-88	22	-1	
503	71	1/4/2014	N/A	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	NO REP.	
504	72	1/5/2014	N/A	895	-29	N/A	-85	56	1.4	-9	-90	20	-5	
505	72	1/6/2014	N/A	895	-29	N/A	-85	56	1.4	-8	-91	21	-6	
506	73	1/8/2014	N/A	894	-27	N/A	-86	59	1.475	-9	-90	18	-4	
507	73	1/9/2014	N/A	894	-25	N/A	-85	60	1.5	-10	-90	15	-5	
508	73	1/10/2014	N/A	893	-29	N/A	-83	54	1.35	-11	-91	18	-8	
509	73	1/11/2014	N/A	895	-30	N/A	-86	56	1.4	-13	-88	17	-2	
510	74	1/12/2014	N/A	892	-31	N/A	-85	54	1.35	-13	-92	18	-7	
511	75	1/13/2014	N/A	892	-31	N/A	-85	54	1.35	-10	-93	21	-8	
512	75	1/14/2014	N/A	890	-24	N/A	-86	62	1.55	-9	-94	15	-8	
513	76	1/15/2014	N/A	889	-29	N/A	-114	85	2.125	-10	-91	19	23	low changed to -86
514	76	1/16/2014	N/A	888	-28	N/A	-91	63	1.575	-10	-91	18	0	low changed to -86
515	77	1/17/2014	N/A	888	-23	N/A	-86	63	1.575	-6	-89	17	-3	
516	77	1/18/2014	N/A	888	-25	N/A	-86	61	1.525	-6	-99	19	-13	
517	77	1/19/2014	N/A	885	-27	N/A	-86	59	1.475	-6	-98	21	-12	
518	78	1/20/2014	N/A	885	-29	N/A	-85	56	1.4	-9	-100	20	-15	
519	78	1/21/2014	N/A	884	-25	N/A	-86	61	1.525	-11	-86	14	0	
520	79	1/22/2014	N/A	884	-24	N/A	-86	62	1.55	-9	-91	15	-5	
521	79	1/23/2014	N/A	882	-26	N/A	-87	61	1.525	-7	-95	19	-8	
522	80	1/24/2014	N/A	881	-26	N/A	-85	59	1.475	-7	-98	19	-13	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-31

523	80	1/25/2014	N/A	881	-25	N/A	-85	60	1.5	-7	-98	18	-13	
524	81	1/26/2014	N/A	880	-27	N/A	-85	58	1.45	-7	-96	20	-11	
525	81	1/27/2014	N/A	878	-29	N/A	-87	58	1.45	-11	-91	18	-4	
526	82	1/28/2014	N/A	878	-24	N/A	-87	63	1.575	-10	-90	14	-3	
527	82	1/29/2014	N/A	877	-23	N/A	-86	63	1.575	-7	-94	16	-8	
528	82	1/30/2014	N/A	876	-26	N/A	-86	60	1.5	-9	-93	17	-7	
529	83	1/31/2014	N/A	875	-23	N/A	-87	64	1.6	-11	-100	12	-13	
530	83	2/1/2014	N/A	873	-28	N/A	-87	59	1.475	-11	-99	17	-12	
531	84	2/2/2014	N/A	872	-22	N/A	-87	65	1.625	-12	-99	10	-12	
532	84	2/3/2014	N/A	872	-23	N/A	-88	65	1.625	-10	-97	13	-9	
533	85	2/4/2014	N/A	871	-30	N/A	-87	57	1.425	-7	-98	23	-11	
534	85	2/5/2014	N/A	869	-29	N/A	-86	57	1.425	-6	-101	23	-15	
535	86	2/6/2014	N/A	868	-29	N/A	-88	59	1.475	-7	-99	22	-11	
536	86	2/7/2014	N/A	867	-29	N/A	-83	54	1.35	-12	-94	17	-11	
537	86	2/8/2014	N/A	865	-28	N/A	-127	99	2.475	-11	-92	17	35	
538	87	2/9/2014	N/A	865	-25	N/A	-85	60	1.5	-8	-91	17	-6	
539	87	2/10/2014	N/A	864	-23	N/A	-85	62	1.55	-17	-82	6	3	
540	88	2/11/2014	N/A	862	-29	N/A	-84	55	1.375	-18	-85	11	-1	
541	88	2/12/2014	N/A	861	-27	N/A	-84	57	1.425	-11	-93	16	-9	
542	89	2/13/2014	N/A	867	-29	N/A	-85	56	1.4	-11	-91	18	-6	
543	89	2/15/2014	N/A	858	-26	N/A	-84	58	1.45	-16	-86	10	-2	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-32

544	90 WINTER	2/16/2014	N/A	857	-27	N/A	-86	59	1.475	-16	-84	11	2	
545	90 WINTER	2/17/2014	N/A	856	-29	N/A	-85	56	1.4	-14	-87	15	-2	
546	91	2/18/2014	N/A	855	-34	N/A	-85	51	1.275	-13	-91	21	-6	
547	91	2/19/2014	N/A	853	-29	N/A	-85	56	1.4	-10	-89	19	-4	
548	91	2/20/2014	N/A	852	-28	N/A	-86	58	1.45	-10	-87	18	-1	
549	92	2/21/2014	N/A	851	-23	N/A	-87	64	1.6	-12	-89	11	-2	
550	92	2/22/2014	N/A	850	-27	N/A	-85	58	1.45	-9	-88	18	-3	
551	93	2/23/2014	N/A	848	-28	N/A	-85	57	1.425	-11	-92	17	-7	
552	93	2/24/2014	N/A	847	-29	N/A	-86	57	1.425	-11	-91	18	-5	
553	94	2/25/2014	N/A	845	-26	N/A	-84	58	1.45	-10	-90	16	-6	
554	94	2/26/2014	N/A	843	-22	N/A	-84	62	1.55	-7	-96	15	-12	
555	95	2/27/2014	N/A	843	-31	N/A	-85	54	1.35	-9	-95	22	-10	
556	95	2/28/2014	N/A	842	-29	N/A	-85	56	1.4	-7	-93	22	-8	
557	96	3/1/2014	N/A	840	-29	N/A	-85	56	1.4	-6	-92	23	-7	
558	96	3/2/2014	N/A	839	-26	N/A	-85	59	1.475	-6	-93	20	-8	
559	96	3/3/2014	N/A	838	-27	N/A	-85	58	1.45	-3	-93	24	-8	
560	97	3/4/2014	N/A	836	-23	N/A	-86	63	1.575	-6	-97	17	-11	
561	97	3/5/2014	N/A	835	-23	N/A	-85	62	1.55	-5	-89	18	-4	
562	98	3/6/2014	N/A	834	-23	N/A	-85	62	1.55	-11	-92	12	-7	
563	98	3/7/2014	N/A	833	-31	N/A	-87	56	1.4	-9	-88	22	-1	
564	99	3/8/2014	N/A	831	-27	N/A	-86	59	1.475	-11	-92	16	-6	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

M-33

565	99	3/9/2014	N/A	830	-27	N/A	-85	58	1.45	-8	-91	19	-6	
566	100	3/10/2014	N/A	829	-27	N/A	-86	59	1.475	-13	-86	14	0	
567	100	3/11/2014	N/A	827	-28	N/A	-86	58	1.45	-13	-87	15	-1	
568	101	3/12/2014	N/A	825	-28	N/A	-86	58	1.45	-9	-86	19	0	
569	101	3/13/2014	N/A	825	-27	N/A	-85	58	1.45	-7	-90	20	-5	
570	102	3/14/2014	N/A	823	-26	N/A	-84	58	1.45	-7	-91	19	-7	
571	102	3/15/2014	N/A	821	-26	N/A	-84	58	1.45	-8	-92	18	-8	
572	102	3/16/2014	N/A	820	-27	N/A	-85	58	1.45	-8	-89	19	-4	
573	102	3/17/2014	N/A	819	-27	N/A	-84	57	1.425	-10	-87	17	-3	
574	103	3/18/2014	N/A	817	-23	N/A	-85	62	1.55	-9	-87	14	-2	
575	104	3/19/2014	N/A	816	-26	N/A	-82	56	1.4	-10	-88	16	-6	
576	104	3/20/2014	N/A	815	-26	N/A	-84	58	1.45	-8	-90	18	-6	
577	105	3/21/2014	N/A	813	-27	N/A	-84	57	1.425	-11	-90	16	-6	
578	105	3/22/2014	N/A	812	-23	N/A	-83	60	1.5	-9	-87	14	-4	
579	106	3/24/2014	N/A	811	-22	N/A	-82	60	1.5	-8	-88	14	-6	
580	106	3/25/2014	N/A	810	-24	N/A	-83	59	1.475	-10	-87	14	-4	
581	107	3/26/2014	N/A	808	-28	N/A	-84	56	1.4	-9	-88	19	-4	
582	107	3/27/2014	N/A	807	-27	N/A	-84	57	1.425	-9	-91	18	-7	
583	108	3/28/2014	N/A	806	-27	N/A	-82	55	1.375	-10	-91	17	-9	
584	108	3/29/2014	N/A	804	-25	N/A	-82	57	1.425	-8	-89	17	-7	
585	109	3/30/2014	N/A	802	-26	N/A	-83	57	1.425	-9	-88	17	-5	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

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586	109	3/31/2014	N/A	802	-24	N/A	-82	58	1.45	-8	-88	16	-6	
587	109	4/1/2014	N/A	801	-28	N/A	-85	57	1.425	-9	-86	19	-1	
588	110	4/2/2014	N/A	799	-24	N/A	-84	60	1.5	-8	-88	16	-4	
589	110	4/3/2014	N/A	798	-27	N/A	-85	58	1.45	-10	-94	17	-9	
590	111	4/4/2014	N/A	797	-26	N/A	-82	56	1.4	-11	-85	15	-3	
591	111	4/5/2014	N/A	795	-26	N/A	-82	56	1.4	-11	-84	15	-2	
592	112	4/6/2014	N/A	795	-26	N/A	-83	57	1.425	-11	-85	15	-2	
593	112	4/7/2014	N/A	795	-23	N/A	-83	60	1.5	-11	-87	12	-4	
594	113	4/8/2014	N/A	793	-22	N/A	-83	61	1.525	-15	-86	7	-3	
595	113	4/9/2014	N/A	792	-25	N/A	-83	58	1.45	-12	-86	13	-3	
596	114	4/10/2014	N/A	791	-24	N/A	-82	58	1.45	-10	-84	14	-2	
597	114	4/11/2014	N/A	790	-26	N/A	-84	58	1.45	-11	-83	15	1	
598	115	4/12/2014	N/A	787	-25	N/A	-84	59	1.475	-10	-82	15	2	
599	115	4/13/2014	N/A	788	-20	N/A	-84	64	1.6	-9	-82	11	2	
600	116	4/14/2014	N/A	787	-25	N/A	-81	56	1.4	-14	-81	11	0	
601	116	4/15/2014	N/A	785	-25	N/A	-82	57	1.425	-8	-74	17	8	
602	117	4/16/2014	N/A	784	-22	N/A	-82	60	1.5	-11	-82	11	0	
603	117	4/17/2014	N/A	783	-15	N/A	-83	68	1.7	-9	-82	6	1	
604	118	4/18/2014	N/A	782	-17	N/A	-84	67	1.675	-9	-87	8	-3	
605	118	4/19/2014	N/A	781	-22	N/A	-83	61	1.525	-9	-86	13	-3	
606	118	4/20/2014	N/A	780	-27	N/A	-84	57	1.425	-8	-88	19	-4	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

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607	119	4/21/2014	N/A	779	-28	N/A	-83	55	1.375	-5	-96	23	-13	
608	119	4/22/2014	N/A	777	-21	N/A	-85	64	1.6	-4	-97	17	-12	
609	120	4/23/2014	N/A	777	-20	N/A	-84	64	1.6	-5	-93	15	-9	
610	120	4/24/2014	N/A	776	-20	N/A	-85	65	1.625	-5	-94	15	-9	
611	121	4/25/2014	N/A	775	-23	N/A	-84	61	1.525	-5	-93	18	-9	
612	121	4/26/2014	N/A	774	-27	N/A	-85	58	1.45	-4	-95	23	-10	
613	122	4/27/2014	N/A	773	-21	N/A	-84	63	1.575	-4	-98	17	-14	
614	122	4/28/2014	N/A	772	-19	N/A	-82	63	1.575	-5	-95	14	-13	
615	123	4/29/2014	N/A	771	-23	N/A	-83	60	1.5	-4	-93	19	-10	
616	123	5/1/2014	N/A	769	-19	N/A	-82	63	1.575	-4	-93	15	-11	
617	124	5/2/2014	N/A	769	-19	N/A	-84	65	1.625	-4	-94	15	-10	
618	124	5/3/2014	N/A	769	-23	N/A	-83	60	1.5	-3	-94	20	-11	
619	125	5/4/2014	N/A	766	-22	N/A	-82	60	1.5	-3	-96	19	-14	
620	125	5/5/2014	N/A	765	-19	N/A	-83	64	1.6	-4	-96	15	-13	
621	126	5/6/2014	N/A	765	-21	N/A	-82	61	1.525	-3	-93	18	-11	
622	126	5/7/2014	N/A	763	-19	N/A	-84	65	1.625	-3	-92	16	-8	
623	127	5/8/2014	N/A	763	-21	N/A	-83	62	1.55	-2	-92	19	-9	
624	127	5/9/2014	N/A	762	-19	N/A	-82	63	1.575	-2	-92	17	-10	
625	128	5/10/2014	N/A	761	-24	N/A	-81	57	1.425	-4	-95	20	-14	
626	128	5/11/2014	N/A	760	-21	N/A	-82	61	1.525	-3	-94	18	-12	
627	129	5/12/2014	N/A	759	-19	N/A	-82	63	1.575	-3	-93	16	-11	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

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628	129	5/13/2014	N/A	759	-23	N/A	-81	58	1.45	-2	-90	21	-9	
629	130	5/14/2014	N/A	759	-24	N/A	-84	-60	1.5	-3	-94	21	-10	
630	130	5/15/2014	N/A	757	-20	N/A	-82	-62	1.55	-2	-93	18	-11	
631	131	5/16/2014	N/A	756	-18	N/A	-81	-63	1.575	-1	-88	17	-7	
632	131	5/17/2014	N/A	755	-18	N/A	-79	-61	1.525	-4	-86	14	-7	
633	132	5/18/2014	N/A	754	-15	N/A	-81	-66	1.65	-3	-85	12	-4	
634	132	5/19/2014	N/A	753	-20	N/A	-82	-62	1.55	4	-85	24	-3	
635	133	5/20/2014	N/A	754	-10	N/A	-82	-72	1.8	-3	-81	7	1	
636	133	5/21/2014	N/A	752	-19	N/A	-81	-62	1.55	0	-89	19	-8	
637	134	5/22/2014	N/A	752	-18	N/A	-80	-62	1.55	-5	-85	13	-5	
638	134	5/23/2014	N/A	751	-12	N/A	-80	-68	1.7	-9	-82	3	-2	
639	135	5/24/2014	N/A	750	-16	N/A	-80	-64	1.6	-9	-80	2	0	
640	135	5/25/2014	N/A	750	-11	N/A	-81	-70	1.75	-7	-81	4	0	
641	136	5/26/2014	N/A	749	-19	N/A	-81	-62	1.55	-2	-81	17	0	
642	136	5/27/2014	N/A	749	-19	N/A	-80	-61	1.525	-2	-85	17	-5	
643	137	5/28/2014	N/A	748	-14	N/A	-80	-66	1.65	-2	-88	12	-8	
644	137	5/29/2014	N/A	748	-19	N/A	-80	-61	1.525	0	-84	19	-4	
645	138	5/30/2014	N/A	746	-8	N/A	-81	-73	1.825	0	-86	8	-5	
646	138	5/31/2014	N/A	746	-16	N/A	-81	-65	1.625	0	-87	16	-6	
647	139	6/1/2014	N/A	746	-19	N/A	-79	-60	1.5	-2	-85	17	-6	
648	139	6/2/2014	N/A	746	-20	N/A	-80	-60	1.5	-2	-85	18	-5	Pressure over 1 mb lower than Ls 90

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

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649	140	6/3/2014	N/A	745	-14	N/A	-79	-65	1.625	-3	-85	11	-6	
650	140	6/4/2014	N/A	743	-11	N/A	-80	-69	1.725	0	-85	11	-5	
651	141	6/5/2014	N/A	743	-8	N/A	-80	-72	1.8	2	-84	10	-4	
652	141	6/7/2014	N/A	745	-12	N/A	-79	-67	1.675	-3	-79	9	0	
653	142	6/8/2014	N/A	744	-13	N/A	-80	-67	1.675	-4	-80	9	0	
654	142	6/9/2014	N/A	742	-8	N/A	-79	-71	1.775	-4	-79	4	0	
655	143	6/10/2014	N/A	741	-14	N/A	-77	-63	1.575	0	-81	14	-4	
656	143	6/11/2014	N/A	740	-13	N/A	-80	-67	1.675	-3	-83	10	-3	
657	144	6/12/2014	N/A	739	-6	N/A	-79	-73	1.825	1	-79	7	0	
658	144	6/13/2014	N/A	739	-10	N/A	-79	-69	1.725	1	-87	11	-8	
659	145	6/14/2014	N/A	738	-14	N/A	-77	-63	1.575	1	-83	15	-6	
660	145	6/15/2014	N/A	735	-12	N/A	-78	-66	1.65	1	-84	13	-6	
661	146	6/16/2014	N/A	735	-10	N/A	-76	-66	1.65	1	-85	11	-9	
662	146	6/17/2014	N/A	735	-11	N/A	-77	-66	1.65	4	-78	15	-1	
663	147	6/18/2014	N/A	734	-10	N/A	-77	-67	1.675	4	-83	14	-6	
664	147	6/19/2014	N/A	732	-8	N/A	-78	-70	1.75	0	-81	8	-3	Minimum pressure same as Ls 157
665	148	6/20/2014	N/A	742	-16	N/A	-78	-62	1.55	7	-82	23	-4	
666	148	6/21/2014	N/A	736	-7	N/A	-77	-70	1.75	0	-80	7	-3	
667	149	6/22/2014	N/A	736	-7	N/A	-76	-69	1.725	0	-81	7	-5	
668	150	6/23/2014	N/A	734	-4	N/A	-75	-71	1.775	7	-78	11	-3	
669	150	6/24/2014	N/A	735	-4	N/A	-84	-80	2	8	-91	21	-7	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOL	~Ls	Earth Date	Original Pressure Pa	Revised Pressure Pa	Maximum Air Temp. °C	Original Maximum Air Temp. °C	Minimum Air Temp. °C	Air Temp Range °C	Air Temp Range °C/40	Max Ground Temp °C	Min Ground Temp °C	Daytime Increase in Temp °C Air to Ground	Nighttime Decrease in Temp °C Ground to Air	Comments

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SOL	~LS	EARTH DATE	ORIGINAL PRESSURE Pa	REVISED PRESSURE Pa	MAX AIR TEMP °C	ORIGINAL MAX AIR TEMP °C	MIN AIR TEMP °C	AIR TEMP RANGE °C	AIR TEMP RANGE °C/40	MAX GROUND TEMP °C	MIN GROUND TEMP °C	DAYTIME INCREASE IN TEMP °C AIR TO GROUND	NIGHTTIME DECREASE IN TEMP °C AIR TO GROUND	CHANGES AND NOTES
670	151	6/25/2014	N/A	737	-7	N/A	-79	-72	1.8	4	-85	11	-6	
671	151	6/26/2014	N/A	740	-15	N/A	-79	-64	1.6	6	-80	21	-1	
672	152	6/27/2014	N/A	739	-16	N/A	-78	-62	1.55	7	-83	23	-5	
673	152	6/28/2014	N/A	738	-16	N/A	-78	-62	1.55	8	-96	24	-18	
674	153	6/29/2014	N/A	734	-17	N/A	-76	-59	1.475	7	-86	24	-10	
675	153	6/30/2014	N/A	740	-12	N/A	-80	-68	1.7	10	-91	22	-11	
676	154	7/1/2014	N/A	738	-17	N/A	-80	-63	1.575	9	-90	26	-10	
677	154	7/2/2014	N/A	737	-12	N/A	-78	-66	1.65	0	-79	12	-1	
678	155	7/3/2014	N/A	739	-17	N/A	-77	-60	1.5	-1	-79	16	-2	
679	155	7/4/2014	N/A	738	-13	N/A	-77	-64	1.6	1	-80	14	-3	
680	156	7/5/2014	N/A	740	-15	N/A	-76	-61	1.525	1	-80	16	-4	
681	156	7/6/2014	N/A	738	-17	N/A	-79	-62	1.55	2	-80	19	-1	
682	157	7/7/2014	N/A	739	-16	N/A	-77	-61	1.525	2	-80	18	-3	