

**ANNEX Q TO
MARS CORRECT: CRITIQUE OF ALL NASA MARS WEATHER DATA
MSL Year 2 to 3 Winter (Ls 90 to Ls 180, Sols 1,213 to 1,392)**

This Annex reveals all Mars Science Laboratory (MSL) weather data for MSL's Mars Year 2 to 3 winter. It shows what was published by the Rover Environmental Monitoring Station (REMS) Team and JPL. It also reveals what the Roffman Team sees as weather anomalies, and how the REMS Team and JPL altered their data after we color-highlighted what was off the expected temperature and pressure curves.

On Table 1 column subjects and color codings are as follows:

<p>Column A (Sol). The Martian day is about 39 minutes longer than the terrestrial day.</p> <p>Column B is solar longitude (Ls). MSL is in the Southern Hemisphere on Mars. The landing was at Ls 150 in winter. Ls 180 begins the spring there. Ls 270 starts summer, Ls 0 starts the fall. Ls 90 starts winter.</p> <p>Column C shows the pressure reported by the REMS Team.</p> <p>Column D shows the date on Earth.</p> <p>Column E shows the maximum air temperature. With respect to the freezing point, from 0° C at 1 atm pressure it will increase up to 0.01° C at 0.006 atm (about the average pressure on Mars as given by NASA). This is the triple point of water. At lower pressures water will never be liquid. It will change directly between solid and gas phase (sublimation). The temperature for this phase change, the sublimation point, will decrease as the pressure is further decreased</p> <p>Column F shows minimum air temperature.</p> <p>Column G shows the air temp. range for each sol. On Earth temperatures can vary by 40 °C in deserts. In column G where the range is 59 °C or less yellow background color is used. The world record in a diurnal temperature variation is 102 °F (57 °C) (from 46 °F (8 °C) to -56 °F (-49 °C)) in Browning, Montana (elevation 4,377 feet/1,334 meters) on January 23 to 24, 1916. There were 2 days in Montana where the temperature changed by 57 °C.</p>	<p>Column H shows temperature range divided by 40. This 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 typical 40 °C cooling figure for Earth's deserts shown with a green background when that ratio is under 1.5. For MSY Year 1 when we altered the divisor from 40 °C to 57 °C then 88 of the ratios were altered to 1 or less than 1, meaning that Martian air pressure is indeed likely much higher than NASA claims.</p> <p>Column I shows maximum ground temperature. 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 above 0°C it is shown with a red background.</p> <p>Column J shows the minimum ground temperature. When it is -90 °C or colder the background is in purple. The ground temperatures are not very precise. 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.</p> <p>Column K. Drop in ground temperature day to night.</p> <p>Column L shows increase in temperature from the mast 1.5 meters above the ground down to the ground during the daylight hours. In column N anytime there is an increase in temperature of 11°C or more this is indicated with a dark blue background.</p>	<p>Column M 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 L we see a variation in heating between 0 °C and at least 15 °C with a 54 °C anomaly on Sol 1,070. For nighttime cooling any variation from 11°C to 19°C is shown with a medium blue background. More than that is shown with a dark blue background.</p> <p>Column N shows the pressure for the same Ls in MSL Year 1.</p> <p>Column O shows the absolute value of the change in pressure in Pascals from the same Ls in the previous year (Column [M] - [C]).</p> <p>Column P shows the original pressure for the same Ls in MSL Year 1 before JPL revised their data.</p> <p>Column Q shows the Ls during Year 1.</p> <p>Column R shows the UV for the sol in Year 2.</p> <p>Column S shows the UV for the sol in Year 1. All sols in MSL Year 1 and Year 2 have opacity listed as "sunny" which seems dubious.</p> <p>Column T shows comments, if any.</p>
--	---	--

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
						YELLOW IF <60 °C	GREEN IF <1.5	RED IF > 0 °C	PURPLE = >-90°C OR COLDER	Yellow numbers = -80 to -89 °C, red background = -90°C or colder drop	BLUE =>10°C	PURPLE = >10°C		YELLOW = > 7 Pa)					
1213	90	851	1/4/2016	-27	-84	-57	1.425	-12	-87	-75	15	-3	857	-6	90	N/A	M	M	FIRST DAY OF WINTER
1214	90	850	1/5/2016	-24	-85	-61	1.525	-12	-86	-74	12	-1	856	-6	90	N/A	M	M	
1215	91	848	1/6/2016	-27	-85	-58	1.45	-3	-84	-81	24	1	855	-7	91	N/A	H	M	Max ground temp seems too warm for this Ls.
1216	91	847	1/7/2016	-28	-86	58	1.45	-6	-85	-79	22	1	853	-6	91	N/A	M	H	
1217	92	846	1/8/2016	-27	-88	-61	1.525	-3	-91	-88	24	-3	852	-6	91	N/A	M	H	Max ground temp seems too warm for this Ls.
1218	92	845	1/9/2016	-32	-96	-64	1.6	-6	-91	-85	26	5	851	-6	92	N/A	M	M	
1219	93	844	1/10/2016	-27	-87	-60	1.5	-4	-92	-88	23	-5	850	-6	92	N/A	M	M	
1220	93	842	1/11/2016	-28	-87	-59	1.475	-3	-94	-91	25	-7	848	-6	93	N/A	M	H	Max ground temp seems too warm for this Ls.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1221	93	841	1/12/2016	-28	-87	-59	1.475	-1	-94	-93	27	-7	847	-6	93	N/A	M	M	Max ground temp seems too warm for this Ls.
1222	94	840	1/13/2016	-28	-87	-59	1.475	0	-94	-94	28	-7	845	-5	94	N/A	M	M	Max ground 0 Celsius temp seems way too warm fo this Ls. See Figure 1.
1223	94	839	1/14/2016	-26	-88	-62	1.55	0	-98	-98	26	-10	843	-4	94	N/A	M	M	See above.
1224	95	837	1/15/2016	-29	-88	-59	1.475	1	-98	-99	30	-10	842	-5	95	N/A	M	M	Above freezing ground temp but 98 degrees Celsius (176.4F) colder at night. WHY?
1225	95	837	1/16/2016	-28	-87	-59	1.475	-1	-98	-97	27	-11	842	-5	95	N/A	M	M	
1226	96	835	1/17/2016	-24	-87	-63	1.575	1	-97	-98	25	-10	840	-5	96	N/A	M	M	Ground high 1 above 0
1227	96	833	1/18/2016	-26	-88	-62	1.55	2	-97	-99	28	-9	839	-6	96	N/A	M	M	Ground high 2 above 0
1228	97	832	1/19/2016	-28	-88	-67	1.565	1	-93	-94	29	-5	838	-6	96	N/A	M	H	Ground high 1 above 0
1229	97	832	1/20/2016	-26	-88	-62	1.55	1	-98	-99	27	-10	836	-4	97	N/A	M	M	Ground high 1 above 0
1230	98	830	1/21/2016	-26	-88	-62	1.55	0	-98	-98	26	-10	835	-5	97	N/A	M	M	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1231	98	828	1/22/2016	-26	-88	-62	1.55	1	-98	-99	27	-10	834	-6	98	N/A	M	M	Ground high 1 above 0
1232	99	827	1/23/2016	-28	-88	-60	1.5	1	-98	-99	29	-10	833	-6	98	N/A	M	M	Ground high 1 above 0
1233	99	826	1/24/2016	-27	-88	-61	1.525	1	-97	-98	28	-9	831	-5	99	N/A	M	M	Ground high 1 above 0
1234	99	824	1/26/2016	-26	-88	-62	1.5	2	-94	-96	28	-6	830	-6	99	N/A	M	H	Ground high still 2 above 0, air lows seem stuck.at -88. SEE FIGURE 2 BELOW.
1235	100	824	1/27/2016	-28	-88	-60	1.5	-1	-97	-96	27	-9	829	-5	100	N/A	M	H	SEE FIGURE 2 BELOW.
1236	100	822	1/28/2016	-26	-87	-61	1.525	1	-97	-98	27	-10	827	-5	100	N/A	M	H	Ground high 1 above 0
1237	101	820	1/29/2016	-29	-88	-59	1.475	0	-99	-99	29	-11	825	-5	101	N/A	M	H	SEE FIGURE 2 BELOW.
1238	101	819	1/30/2016	-26	-87	-61	1.525	2	-95	-97	28	-8	825	-6	101	N/A	M	M	Ground high 2 above 0 SEE FIGURE 2 BELOW.
1239	102	818	1/31/2016	-26	-89	-63	1.575	2	-95	-97	28	-6	823	-5	102	N/A	M	M	Ground high 2 above 0 SEE FIGURE 2 BELOW.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1240	102	816	2/1/2016	-24	-87	-63	1.575	3	-94	-97	27	-7	821	-5	102	N/A	M	M	New high in ground temp for this month (Mars month 4). Previous high 6- in MSL Year 1 SEE FIGURE 2 BELOW.
1241	103	816	2/2/2016	-28	-87	-59	1.475	1	-100	-101	29	-14	820	-4	102	N/A	M	M	New low in ground temp for this month (Mars month 4). Previous low -99 this year. -97 in MSL Year 1 Largest ground temperature range this winter SEE FIGURE 2 BELOW.
1242	103	815	2/3/2016	-26	-87	-61	1.525	2	-98	-100	28	-11	819	-4	102	N/A	M	M	Ground high 2 above 0
1243	104	814	2/4/2016	-26	-86	-60	1.5	1	-99	-100	27	-13	817	-3	103	N/A	M	H	Ground high 1 above 0
1244	104	812	2/5/2016	-26	-85	-59	1.475	0	-92	-92	26	-7	816	-4	104	N/A	M	M	
1245	105	811	2/6/2016	-26	-86	-60	1.5	-4	-90	-86	22	-4	815	-4	104	N/A	M	M	
1246	105	810	2/7/2016	-25	-85	-60	1.5	-3	-91	-88	22	-6	813	-3	105	N/A	M	M	
1247	105	809	2/8/2016	-25	-85	-60	1.5	-4	-90	-86	21	-5	812	-3	105	N/A	M	M	
1248	105	807	2/9/2016	-23	-86	-63	1.575	-4	-90	-86	19	-4	811	-4	106	N/A	M	M	
1249	106	806	2/10/2016	-32	-85	-53	1.325	-9	-86	-77	23	-1	810	-4	107	N/A	M	M	Major drop in air temp high, but not in air temp low.
1250	107	804	2/11/2016	-28	-85	-57	1.425	-11	-88	-77	17	-3	808	-4	107	N/A	M	M	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1251	107	803	2/12/2016	-27	-85	-58	1.45	-11	-88	-77	16	-3	807	-4	107	N/A	M	M	
1252	108	802	2/13/2016	-31	-85	-54	1.35	-9	-86	-77	22	-1	806	-4	108	N/A	M	M	
1253	108	800	2/14/2016	-26	-85	-59	1.475	-10	-89	-79	16	-4	804	-4	108	N/A	M	M	
1254	109	799	2/15/2016	-29	-84	-55	1.375	-11	-88	-77	18	-4	802	-3	109	N/A	M	M	
1255	109	798	2/16/2016	-25	-84	-59	1.475	-10	-89	-79	15	-5	802	-4	109	N/A	M	M	
1256	110	795	2/17/2016	-27	-85	-58	1.45	-10	-85	-75	17	0	801	-6	109	N/A	M	M	
1257	110	794	2/18/2016	-21	-84	-63	1.575	-8	-88	-80	13	-4	799	-5	110	N/A	M	M	
1258	111	794	2/19/2016	-23	-83	-60	1.5	-13	-85	-72	10	-2	798	-4	110	N/A	M	M	
1259	111	794	2/20/2016	-25	-84	-59	1.475	-12	-88	-76	13	-4	797	-3	111	N/A	M	M	
1260	112	792	2/21/2016	-23	-83	-60	1.5	-12	-87	-75	11	-4	795	-3	111	N/A	M	M	
1261	112	793	2/22/2016	-25	-81	-56	1.4	-12	-85	-73	13	-4	795	-2	112	N/A	M	M	
1262	112	790	2/23/2016	-29	-81	-52	1.3	-12	-86	-74	17	-5	795	-5	112	N/A	M	M	
1263	113	788	2/24/2016	-29	-84	-55	1.375	-12	-84	-72	17	0	793	-5	113	N/A	M	M	
1264	113	787	2/25/2016	-27	-84	-57	1.425	-7	-83	-76	20	1	792	-5	113	N/A	M	M	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1265	114	787	2/26/2016	-28	-81	-53	1.35	-7	-86	-79	21	-5	791	-4	114	N/A	M	M	
1266	114	787	2/27/2016	-27	-82	-55	1.375	-8	-87	-79	19	-5	790	-3	114	N/A	M	H	
1267	115	786	2/28/2016	-24	-83	-59	1.475	-11	-86	-75	13	-3	787	-1	115	N/A	M	M	
1268	115	784	2/29/2016	-24	-83	-59	1.475	-11	-84	-73	13	-1	788	-4	115	N/A	M	M	
1269	116	782	3/1/2016	-17	-83	-66	1.65	-12	-83	-71	5	0	787	-5	116	N/A	M	M	
1270	116	782	3/3/2016	-18	-82	-64	1.6	-11	-82	-71	7	0	785	-3	116	N/A	M	M	
1271	117	781	3/4/2016	-22	-84	-62	1.55	-12	-83	-71	10	1	784	-3	117	N/A	M	M	
1272	117	780	3/5/2016	-23	-81	M	1.45	-12	-84	-72	11	-3	783	-3	117	N/A	M	H	
1273	118	778	3/6/2016	-19	-79	-60	1.5	-12	-83	-71	7	-4	782	-4	118	N/A	M	M	
1274	118	777	3/7/2016	-17	-82	-65	1.625	-2	-82	-80	15	0	781	-4	118	N/A	M	M	
1275	119	775	3/8/2016	-17	-82	-65	1.625	-3	-85	-82	14	-3	780	-5	118	N/A	M	M	
1276	119	774	3/9/2016	-20	-83	-63	1.575	-3	-83	-80	17	0	779	-5	119	N/A	M	M	Original Year 1 UV was Low, but NASA ler altered all Low UV
1277	120	774	3/10/2016	-28	-84	-56	1.4	-5	-87	-82	23	-3	777	-3	119	N/A	H	M	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1278	120	778	3/11/2016	-37	-83	-46	1.15	-8	-89	-81	29	-6	777	+1	120	N/A	M	M	-37 high air temp likely wrong, no corresponding usually cold night air temp. See revision on line below.
1278	120	773	3/11/2016	-29	-83	-54	1.35	-4	-89	-85	25	-6	777	-4	120	N/A	H	M	This line shows how REMS/JPL revised data for Sol 1278 after we pointed out above the problems with a -37 high air temperature.
1279	121	772	3/12/2016	-29	-83	-54	1.35	-7	-89	-82	22	-6	776	-4	120	N/A	H	M	
1280	121	771	3/13/2016	-23	-84	-61	1.525	-7	-87	-80	16	-3	775	-4	121	N/A	H	M	
1281	122	769	3/14/2016	-22	-83	-61	1.525	-5	-86	-81	17	-3	774	-5	121	N/A	H	M	
1282	122	768	3/15/2016	-16	-81	-65	1.625	-6	-84	-78	10	-3	773	-5	122	N/A	M	M	
1283	123	767	3/16/2016	-20	-82	-62	1.55	-8	-81	-73	12	1	772	-5	122	N/A	H	M	
1284	123	767	3/17/2016	-21	-80	-59	1.475	-11	-76	-65	10	4	771	-4	123	N/A	M	M	
1285	123	766	3/18/2016	-13	-80	-67	1.675	-10	-81	-71	3	-1	769	-3	123	N/A	M	M	
1286	124	765	3/19/2016	-19	-80	-61	1.525	-11	-80	-69	8	0	769	-4	124	N/A	M	M	
1287	124	764	3/20/2016	-18	-80	-62	1.55	-11	-78	-67	7	2	769	-5	124	N/A	M	M	
1288	125	763	3/21/2016	-16	-80	-64	1.6	-10	-80	-70	6	0	766	-3	125	N/A	M	N/A (was 1)	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1289	125	N/A	3/22/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	125	N/A	N/A	M	
1290	126	N/A	3/23/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	126	N/A	N/A	M	
1291	126	760	3/24/2016	-21	-80	-59	1.475	-10	-81	-71	11	-1	763	-3	126	N/A	H	M	
1292	127	760	3/25/2016	-22	-81	-59	1.475	-12	-79	-67	10	2	763	-3	127	N/A	H	M	
1293	127	758	3/26/2016	-21	-81	-60	1.5	-12	-77	-65	9	4	762	-4	127	N/A	M	M	
1294	128	758	3/27/2016	-16	-79	-63	1.575	-7	-77	-70	9	2	761	-3	128	N/A	M	M	
1295	128	757	3/28/2016	-20	-79	-59	1.475	-9	-81	-72	11	-2	760	-3	128	N/A	M	M	
1296	129	756	3/29/2016	-25	-79	-54	1.35	-7	-80	-73	18	1	759	-3	129	N/A	M	M	
1297	129	755	3/30/2016	-24	-80	-56	1.4	-9	-86	-77	15	-6	759	-4	129	N/A	M	M	
1298	130	755	3/31/2016	-17	-79	-63	1.575	-9	-84	-75	8	-5	759	-4	130	N/A	M	M	
1299	130	753	4/1/2016	-19	-80	-61	1.525	-13	-78	-65	6	2	757	-4	130	N/A	M	H	
1300	131	945	4/2/2016	-16	-79	-63	1.575	-13	-77	-64	3	2	756	+189	131	N/A	M	H	Pressure spike will likely be declared a typographical error. See Figures 3, 4, and 5 below. Watch for JPL to alter this data.
1300	131	752	4/2/2016	-16	-79	-63	1.575	-13	-77	-64	3	2	756	-4	131	N/A	M	H	PREDICTON ABOVE FULFILLED! See Figure 6.
1301	131	1154	4/3/2016	-20	-78	-58	1.45	-10	-78	-68	10	0	755	+399	131	N/A	M	H	Pressure is higher than the 1150 transducer capability. Watch for JPL to alter this data.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1301	131	752	4/3/2016	-20	-78	-58	1.45	-10	-78	-68	10	0	755	-3	131	N/A	M	H	PREDICTON ABOVE FULFILLED. See Figure 6.
1302	132	751	4/4/2016	-24	-80	-56	1.4	-11	-78	-67	13	2	754	-3	132	N/A	M	H	Back to "normal" pressure for this time of year
1303	132	751	4/5/2016	-26	-78	-52	1.3	-11	-79	-68	15	-1	753	-2	132	N/A	H	H	
1304	133	750	4/6/2016	-22	-80	-58	1.45	-9	-78	-69	13	2	754	-4	133	N/A	M	H	
1305	133	749	4/7/2016	-21	-80	-59	1.475	-9	-77	-68	12	3	752	-3	133	N/A	H	H	
1306	134	748	4/8/2016	-23	-77	-54	1.35	-7	-77	-70	16	0	752	-4	134	N/A	H	M	
1307	134	748	4/10/2016	-27	-80	-53	1.325	-9	-77	-68	18	3	751	-3	134	N/A	H	M	
1308	135	748	4/11/2016	-23	-81	-58	1.45	-9	-76	-67	14	5	750	-2	135	N/A	H	M	
1309	135	747	4/12/2016	-19	-81	-62	1.55	-8	-69	-61	11	12	750	-3	135	N/A	H	M	
1310	136	745	4/13/2016	-15	-76	-61	1.525	-4	-79	-75	11	-3	749	-4	136	N/A	M	H	
1311	136	745	4/14/2016	-11	-78	-67	1.675	1	-79	-80	12	-1	749	-4	136	N/A	H	H	
1312	137	745	4/15/2016	-12	-77	-65	1.625	3	-80	-83	15	-3	748	-3	137	N/A	H	H	
1313	137	745	4/16/2016	-14	-77	-63	1.575	1	-83	-84	15	-6	748	-3	137	N/A	H	H	
1314	138	744	4/17/2016	-14	-78	-64	1.6	1	-83	-84	15	-5	746	-2	138	N/A	H	H	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1315	138	744	4/18/2016	-14	-77	-63	1.575	3	-82	-85	17	-5	746	-2	138	N/A	H	H	
1316	139	744	4/19/2016	-20	-80	-60	1.5	2	-82	-84	22	-2	746	-2	139	N/A	H	H	
1317	139	743	4/20/2016	-15	-80	-65	1.625	-6	-80	-74	9	0	746	-3	139	N/A	H	H	
1318	140	743	4/21/2016	-15	-80	-65	1.625	-9	-76	-67	6	4	745	-2	140	N/A	H	H	
1319	140	742	4/22/2016	-8	-78	-70	1.75	-7	-76	-71	1	2	743	-1	140	N/A	H	H	
1320	141	741	4/23/2016	-11	-77	-66	1.65	-7	-75	-68	4	2	743	-2	141	N/A	H	H	
1321	141	740	4/24/2016	-15	-77	-62	1.55	-8	-76	-68	7	1	745	-5	141	N/A	H	H	
1322	142	740	4/25/2016	-10	-78	-68	1.7	-5	-75	-70	5	3	744	-4	142	N/A	H	H	
1323	142	738	4/26/2016	-11	-77	-66	1.65	-5	-74	-69	6	3	742	-4	142	N/A	H	H	PREDICTION: At this rate JPL should claim a Year 2 minimum pressure of about 728 to 730 Pa around Ls 147 to 150 between MSL Sols 1332 and 1338.
1324	143	738	4/27/2016	-9	-78	-69	1.725	-7	-74	-67	2	4	741	-3	143	N/A	H	H	
1325	144	738	4/28/2016	-14	-78	-64	1.6	-6	-74	-68	8	4	740	-2	143	N/A	H	M	
1326	144	738	4/29/2016	-15	-77	-62	1.55	-7	-74	-67	8	3	739	-1	144	N/A	H	H	
1327	145	736	4/30/2016	-11	-76	-65	1.625	-6	-75	-69	5	1	739	-3	144	N/A	H	M	
1328	145	735	5/1/2016	-12	-77	-65	1.625	-7	-73	-66	5	4	738	-3	145	N/A	H	M	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1329	146	735	5/2/2016	-15	-74	-59	1.475	-2	-72	-70	13	2	735	0	145	N/A	H	M	<p>Note: Prediction made on Sol 1323 about Ls of minimum pressures was accessed by NASA San Diego IP address 192.194.122.7 on 5/4/2016 at http://marscorrect.com/custom3_6.html.</p> <p>Sol 1329 was the first sol in the Year 2 winter with an identical pressure to Year 1 (735 Pa).</p> <p>In the MSL Autumn YEAR 2 data there was only 1 sol (1145) with an initial report of identical pressure to the previous year. Based on highly unusual temperatures we predicted that JPL would alter the data and they did. Pressure on Sol 1145 was altered from 907 Pa to 903 Pa. The temperatures were also altered (see http://davidaroffman.com/photo2_30.html).</p> <p>The last agreement between pressures on identical sols was for the summer season, but NASA has altered some pressures on a continuing basis.</p>
1330	146	734	5/3/2016	-14	-78	-64	1.6	-1	-79	-78	13	-1	735	-1	146	N/A	H	H	
1331	147	734	5/4/2016	-19	-76	-57	1.425	0	-78	-78	19	-2	735	-1	146	N/A	H	H	
1332	147	734	5/5/2016	-11	-78	-67	1.675	0	-79	-79	11	-1	734	0	147	N/A	H	H	
1333	148	733	5/6/2016	-18	-76	-58	1.45	0	-80	-80	18	-4	732	1	147	N/A	H	H	Low pressure for Year 1

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1334	148	732	5/7/2016	-12	-77	-65	1.625	0	-78	-78	12	-1	735	-1	148	N/A	H	H	Low Pressure for Year 1 is tied on Year 2
1335	149	732	5/8/2016	-10	-77	-67	1.675	1	-77	-78	11	0	736	-4	148	N/A	H	H	First day over freezing since Sol 1316 , Pressure remains tied with last year's low at 732 Pa.
1336	149	732	5/9/2016	-12	-75	-63	1.575	1	-76	77	13	-1	736	-4	149	N/A	H	H	Pressure remains tied with last year's low at 732 Pa.
1337	150	734	5/10/2016	-13	-76	-63	1.575	1	-79	-80	14	-3	734	0	150	N/A	H	H	
1338	150	734	5/11/2016	-18	-75	-57	1.425	0	-78	-78	18	-3	735	-1	150	N/A	H	H	
																			END OF MSL YEAR 2
																			BEGIN MSL YEAR 3, CONTINUE WINTER REPORT ON NEXT PAGE

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 2	Δ PRESSURE YEAR 2 TO YEAR 3 SAME LS	~LS Year 2	PRESSURE YEAR 2 BEFORE REVISION	UV YR 3	UV YR 2	COMMENTS (AND CORRESPONDING YEAR 2 SOL NUMBER)
1339	151	733	5/12/2016	-18	-77	-59	1.475	2	-77	-79	20	0	737	-4	151	N/A	H	H	(670)
1340	151	734	5/13/2016	-15	-76	-61	1.525	3	-77	-80	18	-1	740	-6	151	N/A	H	H	(671)
1341	152	735	5/14/2016	-9	-76	-67	1.675	1	-77	-78	10	-1	739	-4	152	N/A	H	H	(672)
1342	152	735	5/15/2016	-7	-80	-73	1.825	-4	-77	-73	3	3	738	-3	152	N/A	H	H	(673)
1343	153	735	5/17/2016	-8	-74	-66	1.65	-6	-71	-65	2	3	734	+1	153	N/A	H	H	(674)
1344	153	734	5/18/2016	-14	-75	-61	1.525	-3	-72	-69	11	3	740	-6	153	N/A	H	H	(675)
1345	154	735	5/19/2016	-19	-75	-56	1.4	-1	-74	-73	18	1	738	-3	154	N/A	H	H	(676)
1346	155	737	5/20/2016	-16	-75	-59	1.475	9	-73	-82	25	2	737	0	154	N/A	H	M	(677)
1347	155	736	5/21/2016	-16	-75	-59	1.475	9	-85	-94	25	-10	739	-3	155	N/A	H	M	(678)
1348	156	735	5/22/2016	-15	-76	-61	1.525	11	-85	-96	26	-9	738	-3	155	N/A	H	M	(679)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1349	156	737	5/23/2016	-9	-73	-64	1.6	10	-84	-94	19	-11	740	-3	156	N/A	H	M	(680)
1350	157	738	5/24/2016	-9	-73	-64	1.6	4	-79	-83	13	-6	738	0	156	N/A	M	M	(681)
1351	157	739	5/25/2016	-12	-72	-60	1.5	4	-79	-83	16	-7	739	0	157	N/A	M	H	(682)
1352	158	736	5/26/2016	-6	-73	-67	1.675	4	-78	-82	10	-5	741	-5	158	N/A	H	H	(683)
1353	158	737	5/27/2016	-6	-76	-70	1.75	12	-75	-87	18	1	741	-4	158	N/A	H	M	(684)
1354	159	739	5/28/2016	-5	-75	-70	1.75	3	-78	-81	8	-3	740	-1	159	N/A	H	H	(685)
1355	159	740	5/29/2016	-11	-75	-64	1.6	4	-78	-82	15	-3	738	2	159	N/A	H	H	(686)
1356	160	739	5/30/2016	-5	-74	-69	1.725	3	-77	-80	8	-3	739	0	160	N/A	H	H	(687)
1357	160	738	5/31/2016	-16	-72	-56	1.4	3	-79	-82	19	-7	741	-3	160	N/A	H	H	(688)
1358	161	738	6/1/2016	-16	-74	-58	1.45	2	-78	-80	18	-4	742	-4	161	N/A	H	H	(689)
1359	162	737	6/2/2016	-13	-76	-63	1.575	2	-76	-78	15	0	741	-4	161	N/A	H	H	(690)
1360	162	739	6/3/2016	-16	-76	-60	1.5	2	-76	-78	18	0	741	-2	162	N/A	H	H	(691)
1361	163	739	6/4/2016	-16	-76	-60	1.5	1	-77	-78	17	-1	742	-3	162	N/A	H	H	(692)
1362	163	739	6/5/2016	-17	-74	-57	1.425	2	-77	-79	19	-3	741	-2	163	N/A	H	H	(693)
1363	164	740	6/6/2016	-14	-75	-60	1.5	3	-77	-80	17	-2	740	0	164	N/A	H	H	(694)
1364	164	740	6/7/2016	-16	-74	-58	1.45	2	-76	-78	18	-4	741	-1	164	N/A	H	H	(695)
1365	165	739	6/8/2016	-15	-74	-59	1.475	3	-75	-78	18	-1	743	-4	165	N/A	H	H	(696)
1366	165	740	6/9/2016	-15	-75	-60	1.5	4	-75	-79	19	0	743	-3	165	N/A	H	H	(697)
1367	166	743	6/10/2016	-14	-74	-60	1.5	2	-76	-78	16	-2	743	0	166	N/A	H	H	(698)
1368	167	743	6/11/2016	-16	-74	-58	1.45	4	-75	-79	20	-1	744	-1	166	N/A	H	H	(699)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS

1369	167	742	6/12/2016	1	-73	-74	1.85	3	-76	-79	2	-3	745	-3	167	N/A	H	H	(700) Note: 17 degree increase in max air temp from previous sol.
1370	168	744	6/13/2016	-1	-74	-73	1.825	4	-76	-80	5	-2	745	-1	168	N/A	H	H	(701)
1371	168	746	6/14/2016	-2	-75	-73	1.825	3	-74	-77	5	1	745	1	168	N/A	H	H	(702)
1372	169	744	6/15/2016	-4	-74	-70	1.75	1	-69	-70	5	5	747	-3	169	N/A	H	H	(703)
1373	169	746	6/16/2016	-3	-74	-71	1.775	0	-70	-70	3	4	747	-1	169	N/A	H	H	(704)
1374	170	748	6/17/2016	-5	-74	-69	1.725	5	-74	-79	10	0	746	2	170	N/A	H	H	(705)
1375	170	749	6/18/2016	-2	-73	-71	1.775	5	5	-80	7	-2	748	1	170	N/A	H	H	(706)
1376	171	749	6/19/2016	0	-75	-75	1.875	6	-74	-80	6	1	749	0	171	N/A	H	H	(707)
1377	172	749	6/20/2016	1	-76	-77	1.925	6	-77	-83	5	-1	749	0	171	N/A	H	H	(708) Largest air temperature range this winter (-77 °C)
1378	172	751	6/21/2016	1	-76	-77	1.925	6	-78	-84	5	-2	750	1	172	N/A	H	H	(709)
1379	173	751	6/23/2016	-7	-77	-70	1.75	9	-77	-86	16	0	751	0	172	N/A	H	H	(710) Odd that max air temp drops so much while max ground temp. climbs so high.
1380	173	751	6/24/2016	-7	-74	-67	1.675	10	-77	-87	17	-3	751	0	173	N/A	H	H	(711)
1381	174	751	6/25/2016	-8	-73	-65	1.625	10	-78	-88	18	-5	752	-1	173	N/A	H	H	(712)
1382	174	752	6/26/2016	-4	-76	-72	1.8	11	-77	-88	15	-1	754	-2	174	N/A	H	H	(713)
1383	175	752	6/27/2016	3	-73	-76	1.9	10	-76	-86	7	-3	754	-2	175	N/A	H	M	(714)
1384	176	753	6/28/2016	2	-74	-76	1.9	7	-74	-81	5	0	755	-2	175	N/A	H	M	(715)
1385	176	755	6/29/2016	-3	-75	-72	1.9	10	-74	-84	13	1	755	0	176	N/A	H	H	(716)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 1	Δ PRESSURE YEAR 1 TO YEAR 2 SAME LS	~LS Year 1	PRESSURE YEAR 1 BEFORE REVISION	UV YR 2	UV YR 1	COMMENTS
1386	177	755	6/30/2016	-1	-74	-73	1.825	10	-77	-87	11	-3	756	-1	176	N/A	H	H	(717)
1387	177	755	7/1/2016	2	-74	-76	1.9	17	-79	-96	19	-5	757	-2	177	N/A	H	H	(718)
1388	178	756	7/2/2016	4	-73	-77	1.925	18	-81	-99	14	-8	758	-2	178	N/A	H	H	(719) Largest air temperature range this winter (-77 °C)
1389	178	N/A	7/3/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	761	N/A	178	N/A	N/A	H	(720)
1390	179	N/A	7/4/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	761	N/A	179	N/A	N/A	H	(721)
1391	179	N/A	7/5/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	760	N/A	179	N/A	N/A	H	(722)
1392	180	N/A	7/6/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	761	N/A	180	N/A	N/A	H	(723) FIRST DAY OF SPRING - NO DATA AVAILABLE AGAIN UNTIL SOL 1398 AT LS 184
SOL	~LS	PRESSURE Pa	EARTH DATE	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	Δ GROUND TEMP DAY TO NIGHT	DAYTIME CHANGE IN TEMP °C AIR TO GROUND	NIGHTTIME CHANGE IN TEMP °C AIR TO GROUND	PRESSURE AT SAME LS IN MSL YEAR 2	Δ PRESSURE YEAR 2 TO YEAR 3 SAME LS	~LS Year 2	PRESSURE YEAR 2 BEFORE REVISION	UV YR 3	UV YR 2	SOL THIS DAY BACK IN YEAR 2