



Figure 15. MOLA elevations of surface units within Gusev. Low-albedo materials are shown to illustrate their elevations and which units they overlie. The western low-albedo lobe overlies MV and PL, while the eastern lobe overlies LB and WR.

central Gusev (Figure 18). Here LB has been deposited against WR ridges and in the valleys in between. This confirms that WR was first deposited and later modified prior to LB deposition.

[48] While TR and WR have been demonstrated to be the oldest units within Gusev, the relationship between WR and other units is less clear. Crater density data suggests that WR deposition postdated that of ET. On the basis of the above discussion, an Early Amazonian age for WR is suspect. Although WR lies at lower elevations, its mean elevation is near -1905 m. When topographic profiles across ET-WR unit contacts in the north and southeast are

considered (Figures 12a and 12b), a noticeable slope break at ~ -1900 m is observed. We propose this slope break as the topographic expression of WR underlying ET in south-eastern Gusev.

[49] Conflicting age data also exist between WR and PL. Crater densities suggest a Late Noachian to Late Hesperian age for PL compared to the problematic Early Amazonian age for WR. Insight into the WR-PL relationship is provided by a broad “window” (topographic depression) in north-western Gusev. This “window” shows some smaller ridges and degraded crater rims at the bottom of the depression that correspond to WR elevations. This suggests that WR under-

Table 2. Crater Density/Age Determination

Unit Name	Unit Area, km ²	Crater Density ($N > (x)$ km diam./ 10^6 km ²) ^a			Age Range ^b
		N(1)	N(2)	N(5)	
PL	3230	2167	1238	310	UN-UH
WR	2945	111	185	0	LA-UA
ET	1249	1600	800	0	LH-UH
MS	439	2277	2277	0	UH
TR	~ 163	0	0	0	
MV	549	3644	1822	0	LH
Low albedo	~ 518	0	0	0	
LB	1152	3473	0	0	LH

^aN, number of craters.

^bUN, Upper Noachian; LH, Lower Hesperian; UH, Upper Hesperian; LA, Lower Amazonian; UA, Upper Amazonian.