

**Appendix Three:
San Mateo Hill logs**

Table 1: San Mateo Hill (SMH), Site TB17, Log 1 (ca. 4.69 m thick), San Mateo Hill quarry. See Section 6.3 and Figures 8.1 & 8.9							
Bed number and thickness	Field facies description	Sedimentary structures/features	Post depositional facies	Bed Name and code (See Chapter 5)	Depositional environment (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Post-depositional environments (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Facies Group (Chapter 8)
Bed 6, 0.60 m	Medium light grey (N6) medium fine sand with fine pebble gravel size pumice clasts	-The bed contains boundary and channel forms (max thickness 0.20 m)	-Non-observed	Re-worked medium to coarse volcanic ash with occasional trough cross-beds (Facies 18d)	Fsp. SB	Non	F3: 2
Bed, 5, 0.50 m	Medium light grey (N6) medium-coarse fine sand with very fine to fine pebble gravel pumice fragments with medium pebble gravel sized pumice clasts	-Poorly sorted -Boundary and channel forms (max 0.10 m thick) within the unit	-Non-observed	Re-worked medium to coarse volcanic ash with occasional trough cross-beds (Facies 18d). Ar/Ar age of 550.7 ±4.1/4.7 ka BP from Table 1.	Fsp, SB.	Non	F3: 2
Bed 4, 1.96 m	The is a composite unit made up of 8 cycles. Bed sets consist of pinkish grey (5RY 8/1) coarse to fine sand with fine pebble gravel that is capped by (white N9) indurate carbonate layers (0.10 – 0.03 m thick).	-This unit is made up of channels and sediment gravity flow beds that all sit within boundary and channel forms. The unit grades from larger bed and coarser sands to smaller beds and finer sand sin the upper bed. -Bed set thicknesses range from max 0.42 m (max) at the base to smaller beds (min 0.13 m) in the upper unit. c) Each cycle is capped by a massive, thin (<0.05 m) sandy carbonate deposit (c). b) The upper thinner beds have laminated, or cross-bedded interbeds. a) The first four cycles are massive coarse to medium sands with the occasional small-scale cross be sets and small pebble gravel intraclasts	-Carbonate cap formation	c) Massive groundwater calcrete (Facies 19d) b) Cross-bedded, fine laminated sands (Facies 14b) a) Intraformational, massive, normally graded course to fine sand monomictic fine pebble gravel (Facies 15).	b) CH, FSr: a) CH, FGmg, SG	c) CGWsh (?)	F3: 1

Table 1 continued							
Bed	Field facies description	Sedimentary structures/features	Post depositional facies	Bed Name and code (See Chapter 5)	Depositional environment (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Post-depositional environments (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Facies Group (Chapter 8)
Bed 3, 0.60 m +	Moderate red (10R 4/6), iron-rich fine sand with large to very coarse pebble gravel sized rip up clasts of indurated pinkish grey (5RY 8/1) fine silty sand. The bed is capped by 0.5m of (white) indurated sand.	-Iron staining in places -Massive -Poorly sorted -Sharp, parallel, wavy erosive lower contact -In places, the base of the bed is lined with pinkish grey (5RY 8/1) silty fine sand rip-up clast from bed 2. -This bed is laterally discontinuous and pinches out in places along the section cut by channels in other portions of the section - Occasionally interlaminated with discontinuous silt lamina	-Vertical jointing -Some brecciation	Massive fine sand with coarse pebble gravel (Facies 15/Facies14c matrix).	FGmm, SG	-Exposure, desiccation and drying	F3: 1
Bed 2, 0.50 m	Pinkish grey (5RY 8/1) fine silty sand with small pebble gravel clasts (<30%).	-Massive overall, but with occasional bed sets that infill small channels (<0.30 m in diameter and < 0.2 m in height) that go from trough cross-beds to horizontally laminated in the upper. - Disconformable lower contact, over-hangs lower bed by ca. 0.10 m -Channels occasionally cut this bed and bed 3 that are: <ul style="list-style-type: none"> • ca. 1m thick and 2 m wide. • Infilled with nonparallel, graded cross-bedded sets of small pebble gravel in fine sand to laminated to massive silty fine sand • Cut channels are infilled with bed 4 	-Small nodules (small - very coarse pebble gravel in size) occur occasionally	Massive fine silty sand with fine pebble gravel lined channel scours (Facies 14b).	FFSm FSe, FSt	CPedN (?), CGwNod	F3: 1
Bed 1, 0.59 m +	Moderate reddish brown (10R 4/6) fine silty sand Thin cap of carbonate matrix with fine to medium sand which is uneven, < 0.01 m	-Massive -Sharp, parallel, uneven, wavy disconformable upper contact -Horizontal and laterally continuous large bed -The upper sandy (fine to coarse) indurated layer	-Vertical jointing -Brecciation -Calcite vein -Carb nodule	Upper bed, laminar calcrete (Facies 19a) Lowe bed, massive silty fine sand with vertical jointing (Facies 14a).	FP(?) Soil horizon	CPedPI	F3: 1

Table 2: San Mateo Hill (SMH), Site TB17, Log 2 (ca. 10.94 m thick), San Mateo Corn Field. See Section 6.3 and Figures 8.1 & 8.9							
Bed number and thickness	Field facies description	Sedimentary structures/features	Post depositional facies	Bed Name and code (See Chapter 5)	Depositional environment (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Post-depositional environments (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Facies Group (Chapter 8)
Bed 9, 1.10 m	Composite sequence. Beds made up of cycles of bed sets of pinkish grey (5RY 8/1) silty fine with fine pebble gravel. Pinkish grey (5RY 8/1) silty fine capped by (white N9) indurate carbonate layers	-This unit is very similar to bed 5 in structure although compositionally the sediment is finer, and the cycles are thinner and less pronounced. -The cycles again are massive then cross-bedded or laminated and each infill a channel form. -Topped by massive micritic silt < 10 mm thick	-Brecciation in the upper bed -Carbonate beds cap cycles	c) Massive sheet groundwater calcrete (Facies 19c). b) Cross-bedded, laminated fine silty sands (Facies 14b). a) Massive fine silty sand with fine pebble gravel (Facies 15).	b) CH, FSR a) CH, FGmg	c) CGwsh(?)	F3: 1
Bed 8, 1.2 m	Medium light grey (N6) medium-coarse fine sand with medium to very coarse angular pebble gravel pumice fragments	- Grouped planar cross beds (max 0.45 m thick) within the beds -At least two interbeds that sit in boundary and channel forms -Poorly sorted -Very irregular base that loads and cuts the lower contact, disconformable. Upper contact is also very irregular. -The whole unit pinches and swells but is laterally continuous	-None observed	Re-worked medium to coarse volcanic ash with medium to very coarse pebble gravel (Facies 18d). Inferred Ar/Ar age of 550.7 ±4.1/4.7 ka BP from Table 1, Bed 5	Fsp, SB	-None	F3: 2
Bed 7, 0.50	Moderate reddish brown (10R 4/6) fine silty sand	-Massive -Relatively gradational lower contact	-Vertically jointed -Brecciated	Massive fine silty sand (Facies 14a).	Fp	-Exposure, drying and evaporation	F3: 1

Table 2, Continued							
Bed number and thickness	Field facies description	Sedimentary structures/features	Post depositional facies	Bed Name and code (See Chapter 5)	Depositional environment (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Post-depositional environments (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Facies Group (Chapter 8)
Bed 6, 4.9 m	This is a composite unit made up of 5 cycles of bed sets of pinkish grey (5RY 8/1) coarse to fine sand with fine to medium pebble gravel that is capped by (white N9) indurate carbonate layers (0.15 – 0.03 m thick).	-Boundary and channel forms. -Bed set thicknesses range from 1.22 m 0.30 m. -This bed overhangs the lower bed by at least 0.30 m (c) Each bed set is capped by a massive indurated carbonate layer (b) The upper cycles are fine silty sand with wavy to plane laminations and small-scale cross beds. These beds are poorly sorted and contain small pebble gravel intraclasts. (a) Massive, coarse to fine sand with poorly sorted, angular gravel clasts.	-Massive, sandy Carbonate cap	c) Massive sheet groundwater calcrete (Facies 19c). b) Cross-bedded, laminated coarse to fine sands (Facies 14c). a) Massive normally graded medium sand with coarse to fine pebble gravel (Facies 15).	b) CH, FSr, SB a) CH, FGmg	c) CGwsh(?)	F3: 1
Bed 5, 1.30 m +	Pinkish grey (5RY 8/1) fine silty sand with large - small cobble gravel sized rip up clasts of indurated moderate reddish brown (10R 4/6) silty fine sand.	-Iron staining in places -Massive -Poorly sorted -Sharp, parallel, uneven erosive lower contact -In places, the base of the bed is lined with pinkish grey (5RY 8/1) silty fine sand rip-up clast. -This bed thins laterally and almost pinches out in places along the section. In places, it is cut by fluvial channels -Disconformable lower contact -Loads onto the lower bed	-None	Massive, fine sand with very coarse pebble gravel (Facies 15).	FGmm, CH	-None	F3: 1
Bed 4, 0.05 m	Pinkish grey (5RY 8/1) silt with sandy inclusions.	-Massive -Uneven contacts that follow the erosional base of Bed 5	-None	Groundwater sheet carbonate layer (Facies 19d).	CGWsh		F3: 1

Table 2, Continued							
Bed number and thickness	Field facies description	Sedimentary structures/features	Post-depositional facies	Bed Name and code (See Chapter 5)	Depositional environment (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Post-depositional environments (Tables 16, Figs 4.2 – 4.4 and Chapter 5)	Facies Group (Chapter 8)
Bed 3, 1.20 m	Pinkish grey (5RY 8/1) fine silty sand (<30%).	-Massive overall, but with occasional beds sets that infill small channels (<0.30 m in diameter and < 0.2 m in height) that go from trough cross-beds to horizontally laminated in the upper. - Disconformable lower contact, over-hangs lower bed by ca. 0.10 m -Loads onto the lower bed	-Small carbonate nodules occur occasionally	Massive fine silty sand with occasional small pebble gravel lined channels (Facies 14a)	FFSm, SG, CH (FFs)	CPedN or CGNod	F3: 1
Bed 2, 0.30m +	Laminate silt-sized, indurated carbonate	-Plane laminations	-None	Upper bed, laminar calcrete horizon (Facies 19a)	CPedPI	CPedPI	F3: 1
Beds 1, 0.60 +	Moderate reddish brown (10R 4/6) fine silty sand.	-Massive -Sharp, parallel, uneven disconformable upper contact -Horizontal and laterally continuous bed	-Vertical jointing -Brecciation -Carbonate vein and nodule development	Massive silty fine sand with vertical jointing (Facies 14a).	- FP(?)	PBre/Nod Bre	F1

Table 3: San Mateo Hill (SMH), Site TB17, Log 3 (ca. 14.8 m thick), Barranca. See Section 6.3 and Figure 8.1 & 8.9

Bed number and thickness	Field facies description	Sedimentary structures/features	Post depositional facies	Bed Name and code (See Chapter 5)	Depositional environment (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Post-depositional environments (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Facies Group (Chapter 8)
Bed 14, 1.88 m	Interbedded (<0.30 m) of pinkish grey (5YR 8/1) micritic silt with moderate reddish brown (10R 4/6) silt.	-laminations and cross-bedding,	-Vertically jointed	Interbeds of vertically jointed, laminate to cross-bedded muddy micrite (Facies 8b) and silt (Facies 13b).	LMa, F/LMs	LLer, PNod/Bre	F2: 1
Bed 13, 0.70 m	Moderate red (5R 4/6) silt	-Massive		Massive, vertically jointed silt (Facies 13b).			
Bed 12, 0.88 m	White (N9), hard, indurated micritic silt	-Massive	-None	Massive calc-mudstone (Facies 3a)?		None	
Bed 11, 0.40 m	Moderate red (5R 4/6) silt	-Massive	-Vertically jointed	Massive, vertically jointed silt (Facies 13b).		LLer, PNod/Bre	
Bed 10, 0.24 m	White, powdery micritic silt	-Vague horizontal laminations	-None	Laminated calc-mudstone (Facies 3a)?		None	
Bed 9, 0.30 m	Pale red (5R 6/2) silt	-Massive	-Vertically jointed	Massive, vertically jointed silt (Facies 13b).		LLer, PNod/Bre	
Bed 8, 0.40 m	White (N9), powdery micritic silt	-Vague horizontal laminations		Laminated calc-mudstone (Facies 3b)?			

Table 3, Continued							
Bed number and thickness	Field facies description	Sedimentary structures/features	Post depositional facies	Bed Name and code (See Chapter 5)	Depositional environment (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Post-depositional environments (Tables 4.8 - 4.16, Figs 4.2 – 4.4 and Chapter 5)	Facies Group (Chaper 8)
Bed 7, 0.20 m	Pale yellowish green (10GY 7/2) clay	-Massive -Gradational upper contact	-None	Massive clay (Facies 11b).	LMs	None	
Bed 6, 2.10 m	Pale red (5R 6/2) fine silty sand			Vertically jointed, massive silty fine sand (Facies 14a).			
Bed 5, 0.50 m	White (N9) powdery micritic silt	-Vague horizontal laminations -Disconformable upper and lower contacts	-Vertical jointing	Laminated calc-mudstone? (Facies 3a)			
Bed 4, 1.30 m	Pale red (5R 6/2) silt			Massive silt (Facies 13a).			
Bed 3, 0.50 m	Pale yellowish green (10GY 7/2) clayey silt			-Massive -Horizontal and laterally continuous large beds			
Bed 2, 3.10 m	Pale red (5R 6/2) muddy silt	Massive mud (Facies 12a).					
Bed 1, 3 m	Pale yellowish green (10GY 7/2) clayey silt	Massive mud (Facies 12a).					

F2: 1
F1: 1