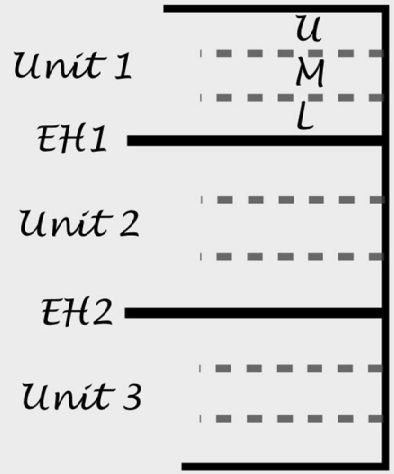
DR2010108

a)

Schematic section

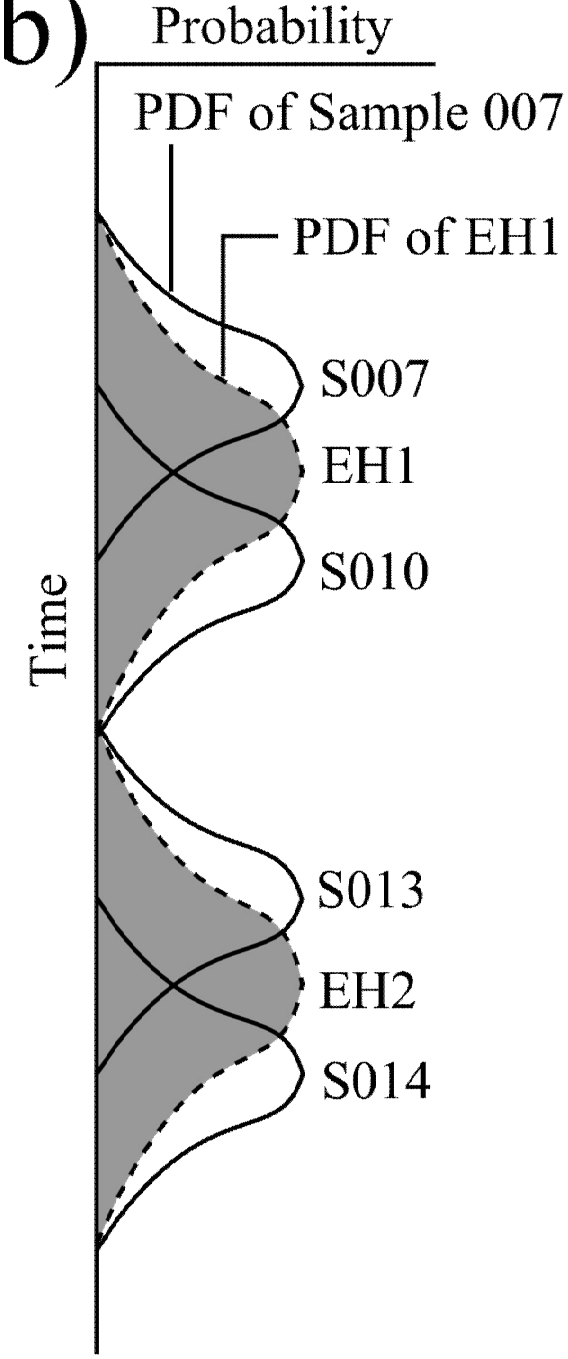


Sampling table

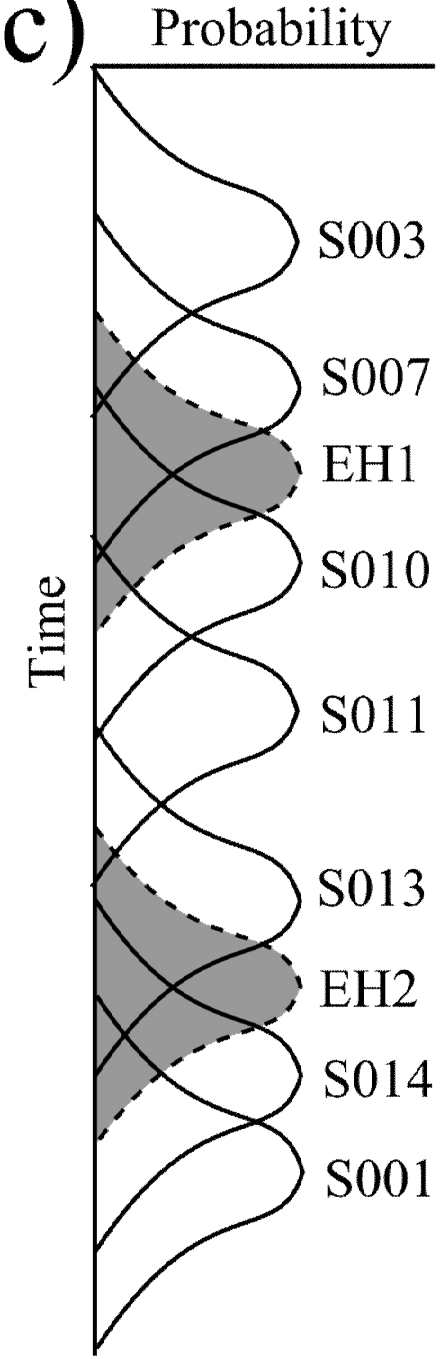
Unit 1	U	S002 (G/TS)
	M	S003 (G/M), S004 (PG/M)
	L	S007 (VG/B)
Unit 2	U	S009 (P/S), S010 (G/M)
	M	S006 (PG/S), S011 (VG/S)
	L	S012 (PG/M), S013 (G/M)
Unit 3	U	S005 (P/M), S014 (G/B)
	M	S008 (G/M), S015 (G/M)
	L	S001 (VG/B)

Sample Quality (VG-very good, G-good, PG-possibly good, and P-poor)
Sample Size (B-big, M-medium, S-small, and TS-too small)

b)



c)



Electronic supplement to augment the simplified unit descriptions

PLOW ZONE
South of Fault:
Grey brown, silty to pebbly GRAVEL, very poorly sorted,angular, clast supported, loose.

North of the fault:
Yellow brown, silty to pebbly GRAVEL, very poorly sorted, angular, variably clast and matrix supported, loose.

Variable thickness –obviously man made- plow furrows on the surface prior to trenching. Plow methods vary locally but we observed many people using a donkey with a wooden plow with just shallow furrow consistent with what we observe of this layer.

PACKAGE 1
1a:
Grey brown, CLAY-GRANULES, very poorly sorted, subrounded to subangular with many platy grains. Lithic fragments composed of various metamorphic lithologies.

1b:
Grey brown, clay-granules(matrix) GRAVEL, very poorly sorted, matrix supported

Boundaries are quite incoherent which maybe due to biological process (speculation).

The distribution of gravels (1b) is relatively chaotic although there is a layer along most of the base about 1 clast thick.

This package is distinct in color therefore the lower contact is easy to define. The upper contact is relatively clear as the material in the plow zone is looser.

The basal contact is not observed in the Root Bulb zone on the east wall – the color in the root bulb zone is very similar.

PACKAGE 2
2b:
Yellow brown, silty clayey COBBLES / cobbly silty CLAY, matrix supported, bimodal, subrounded.

The 2a-2b contact is evidenced by a change in the pebble and cobble content. 2b has a finer matrix than the underlying unit 3a.

2a:
Yellow brown, clayey sandy pebbly SILT, with some gravel, poorly sorted.

2a’:
On the east wall a distinctive layer is present at the top of unit 2a which has not been recognized on the west wall – i.e. localized deposition or localized erosion?
Yellow brown, clayey SILT, well sorted, massive – occasional clasts.

2az:
Yellow brown clayey sandy pebbly cobbly SILT, poorly sorted, matrix supported.

The base of unit 2b is relatively clear due to 2b having a finer matrix.

PACKAGE 3
3b:
North of horizontal 10m of the east wall
Yellow brown, clayey cobbly SILT with some pebbles, matrix supported, poorly sorted matrix supported, bimodal.

South of horizontal 10m of the east wall
Brown, clayey silty COBBLES, subrounded variably matrix supported, poorly sorted, bimodal.
This part of unit 3b is coincident with the overlying root bulb, it is not clear if this increase in cobbles is a result of the root bulb. It is hard to reconcile an increase in coarse sediments due to the tree.

The west wall
Yellow brown, clayey cobbly pebbly SILT, matrix supported , poorly sorted.

3a:
Brown/yellow brown, Clayey SILT with some pebbles-cobbles, bimodal, matrix supported, prismatic.
This unit contains distinctly more cobbles towards the fault on the east wall and between horizontal 10m and 11m on the west wall.
Within the root bulb zone there are concretions. This is attributed to changed water chemistry proximal to the roots.

PACKAGE 4
4b:
Yellow brown, gravelly pebbly silty COBBLES, subrounded, predominantly matrix supported.

Unit 4b is relatively limited in extent which may reflect the paleo-topography.

The contact between 4a and 4b is subtle but accompanied by a subtle color change (a little more pale below)

4a:

Yellow brown, gravelly pebbly SILT, grading southwardly into; silty GRAVEL, subangular, matrix supported.

PACKAGE 5

5a:

Yellow brown, gravelly SILT / silty GRAVEL (fine) with some pebbles, subrounded – subangular.

The top of this unit is brown mottled yellow brown with a significant portion of charcoal fragments – this strongly suggests this was a paleo surface.

5b:

Yellow brown mottled brown, silty gravelly COBBLES, very poorly sorted, matrix supported except between horizontal 12m and 14m on the west wall which is clast supported – contains a relatively high proportion of charcoal.

5b':

Yellow brown, cobbly SILT, bimodal, massive.

PACKAGE 6

6a:

Brown, gravelly pebbly SILT, massive, predominantly matrix supported (i.e. clast supported at some locations).

This unit is similar on both walls and becomes a little more gravelly towards the fault and more silty with noticeably more charcoal in the top ~20cm of the unit

The contact between units 6a and 6b is very gradational – defined by the presence of cobbles, a slight increase in gravels and charcoal content.

6b:

Yellow brown, pebbly silty gravelly cobbly GRAVEL, subrounded, very poorly sorted, mostly matrix supported.

Many of the cobbles in this unit may have been disturbed by the backhoe. Upper and lower contacts are not clear. Within 6b the clasts seem to be clustered together – not in layers as such – this may be due to the backhoe.

PACKAGE 7

7a:

Yellow brown, SILT with some clay and a trace of medium sand, massive with some subhorizontal aligned gravel clasts within the unit. On both walls between horizontal 11m and 12m there is a small but noticeable increase in pebble content.

The contact between units 7a and 7b is noticeably more convoluted on a 10's of cm scale and more clear than most of the other contacts in the trench. There is no evidence to constrain the timing of this deformation but since the base of 7b is relatively flat its is unlikely to be directly a result of tectonic deformation.

7b:
Yellow brown, silty pebbly GRAVEL with some cobbles, subangular, poorly sorted matrix supported, clay content increases towards the fault.

PACKAGE 8
8a:
Brown mottled orange brown, clayey SILT with some subrounded pebbles, massive, contains some cobbles, and contains many small fragments of charcoal.

The contact of unit 8a with the overlying unit 7b is not very clear but can be constrained to within a few cm's based on the pebble content

8b:
Brown, clayey silty GRAVEL, subrounded, matrix supported, massive, pebble – cobble sized gravel clasts.

The contact between 8a and 8b is well defined due to the grain size and colour.

SHEAR ZONE
This unit forms a distinct unit south of what is obviously the main fault plane trace (shear zone gravel contact). The unit is characterized by:

1. the inability to distinguish layers to the south
2. higher clay content with correspondingly more cracks as the exposure dried.
3. subtle variation in color – orange brown.

Orange yellow brown, CLAY-GRAVEL, very poorly sorted, absent of structure.

The shear zone unit can easily be traced to the base of the plow zone.

GRAVEL NORTH OF THE FAULT
Yellow brown matrix Grey clasts, silty GRAVEL, very poorly sorted pebble-boulder sized clasts, subangular, clast supported.

~10degree SE tilt (towards the fault plane) of subtle bedding in gravel strongly suggests these gravels have been tectonically deformed.

ROOT BULB

Grey brown gravelly SILT
Evidence to support this being a root bulb:

1. layer structure destroyed
2. concretions at base
3. stops at gravelly layer (possibly an aquifer?)
4. not present on all walls
5. no evidence for anthropogenic origin
6. subtle deformation (deflation) of adjacent units
7. only piece of wood in trench found near the base of this unit, possibly a root?

Unconstrained Oxcal model of all calibrated radiocarbon dates