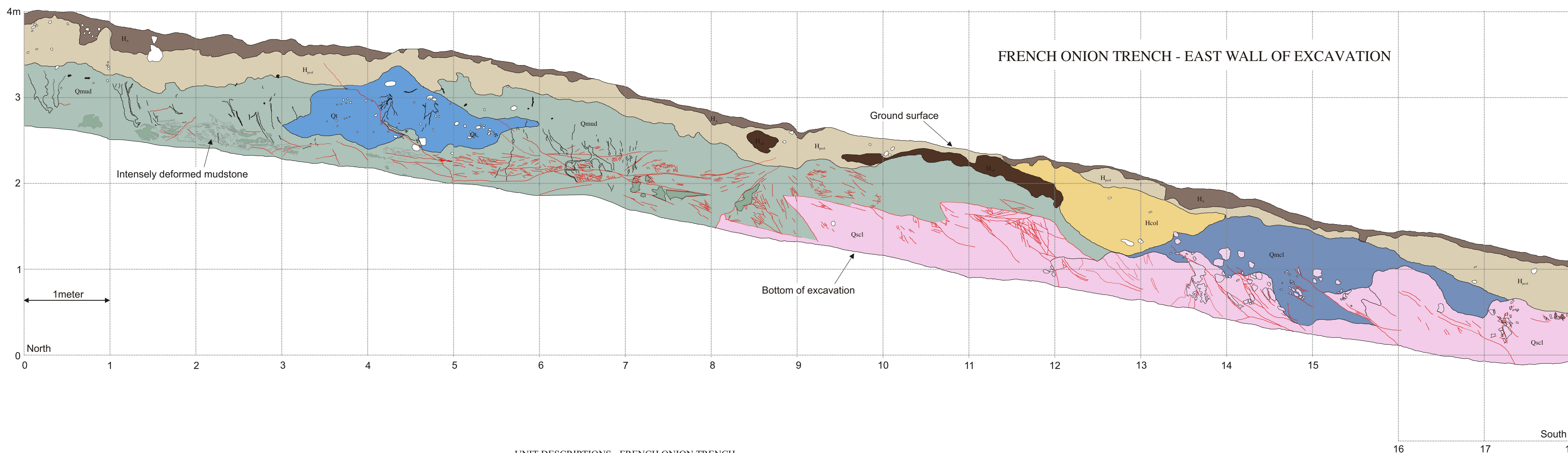
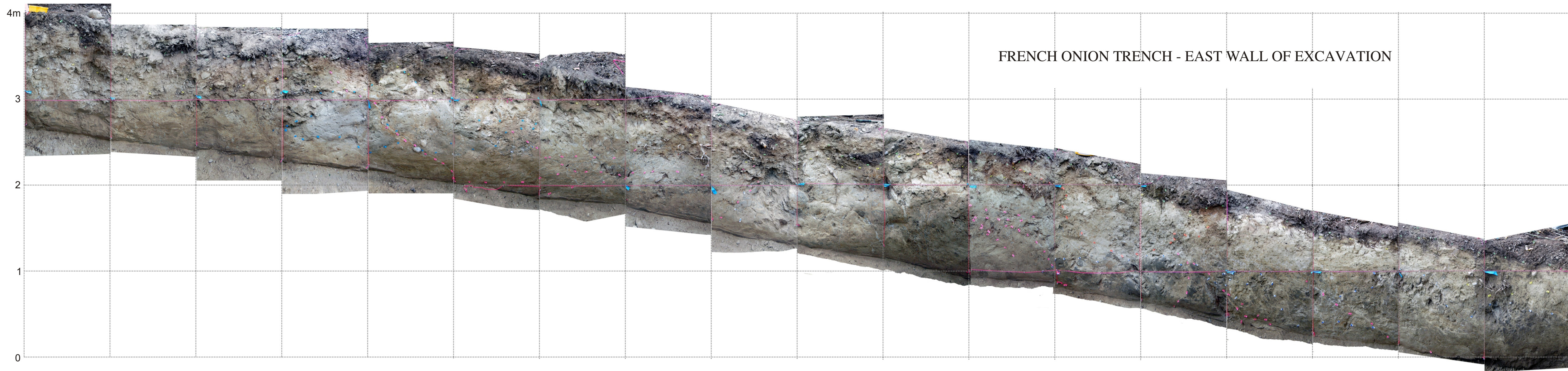


UNIT DESCRIPTIONS - BEEF BARLEY TRENCH

UNIT <sup>1</sup>	LITHOLOGY	MATRIX TEXTURE <sup>2</sup>	COARSE FRACTION <sup>3</sup>	MATRIX COLOR <sup>4</sup>	ORGANIC MATERIAL <sup>5</sup>	STRUCTURES	OTHER PROPERTIES AND COMMENTS
H6	Sand	Sandy loam	<2%	5Y5/2	None	None	Liquefied sand deposits and dikes. This unit consists of sandy liquefaction dikes and deposits.
H5.3	Gravelly sand	Sandy clay loam	20-30%	2.5Y4/2	10YR4/6	None	Disrupted by liquefaction. This unit consists of gravelly liquefaction dikes and deposits.
H5.2	Pebbly sand	Sandy loam	20-30%	2.5Y4/3	None	None	Disrupted by liquefaction. This unit consists of pebbly liquefaction dikes and deposits.
H5.1	Sand	Sandy clay loam	2-5%	2.5Y4/4	10YR5/6	Roots - 1, co, sv	Disrupted by liquefaction. This unit consists of sandy liquefaction dikes and deposits, and is similar in color and grain size to Q2a.
H4.1	Organic soil fill	Sandy loam	<2%	10YR2/1	Humus	None	None. This unit is possibly reworked Holocene soils (a fill soil) and appears disturbed in places.
H4	Organic soil	Sandy loam	<2%	10YR3/1	Humus	None	Disturbed by liquefaction. This is likely a Holocene soil that is buried by fill, and was possibly disturbed by filling and grading of the site.
HQ3	Gravel	Sandy loam	10-50%	2.5Y4/3	5YR5/8	None	Disturbed by liquefaction. The age of this unit is unknown. It is possible that these deposits are Vashon recessional outwash deposits but they could also be early Holocene fluvial deposits from the ancestral Bear Creek drainage.
Q2g	Sandy silty clay	Sandy clay to loam	<2%	5Y6/2 to 5Y6/2	5Y4/6	None	Disrupted by liquefaction. These Vashon recessional outwash deposits are cut by liquefaction dikes.
Q2f	Silty sand	Sandy clay loam	<2%	5Y4/2	None	None	Disrupted by liquefaction. These Vashon recessional outwash deposits are cut by liquefaction dikes.
Q2d	Sand	Sandy clay loam	2-5%	2.5Y5/6	None	Roots - 1, co, sh	Disrupted by liquefaction. These Vashon recessional outwash deposits are cut by liquefaction dikes. Bedding alternates between coarse and medium fine grained sand. Pebbles and silt beds at top.
Q2aA	Mottled sand	Sandy loam	<2%	10YR4/6	10YR3/3	Roots - 1, co, sv	Disrupted by liquefaction. These Vashon recessional outwash deposits are cut by liquefaction dikes.
Q2g	Sandy silt	Sandy loam	<2%	2.5Y5/3	None	None	Disrupted by liquefaction. These Vashon recessional outwash deposits are cut by liquefaction dikes.
Q2f	Silty sand	Sandy clay loam	<2%	2.5Y3/4	None	None	Folding and disrupted by liquefaction. These Vashon recessional outwash deposits are cut by liquefaction dikes and the bedding is disrupted in places.
Q2d	Sand	Loamy sand	<2%	2.4Y6/6	None	Roots - 1, co, sv, iv	Reverse faulting and slightly tilted to west by folding. Also disrupted by liquefaction. Vashon recessional outwash deposits, cut by liquefaction dikes.
Q2b	Pebbly sand	Sand	>20%	10YR6/4	None	None	Slightly tilted to west by folding. These are Vashon recessional outwash deposits.
Q2a	Pebbly sand	Sand	>50%	10YR6/4	None	None	Slightly tilted to west by folding. These are Vashon recessional outwash deposits.

<sup>1</sup>Units shown on the trench log are designated by a unit code based on lithology, stratigraphic position, and inferred age (from oldest to youngest). Suffixes 'A' for Units Q2aA and Q2aA indicate that the unit had properties associated with an A horizon (disturbed by roots and increased organic content).  
<sup>2</sup>Texture terms follow Natural Resources Conservation Service notation and description.  
<sup>3</sup>Estimate of area covered by clasts using size charts. Most clasts were subspherical to rounded, and occasionally faceted.  
<sup>4</sup>Primary color is dominant Munsell color of matrix, taken moist.  
<sup>5</sup>Type of organic material present. Root terms follow Natural Resources Conservation Service notation and description.  
<sup>6</sup>Terms for soil horizon properties follow Natural Resources Conservation Service notation and description.



UNIT DESCRIPTIONS - FRENCH ONION TRENCH

UNIT <sup>1</sup>	LITHOLOGY	MATRIX TEXTURE <sup>2</sup>	COARSE FRACTION <sup>3</sup>	MATRIX COLOR <sup>4</sup>	ORGANIC MATERIAL <sup>5</sup>	STRUCTURES	OTHER PROPERTIES AND COMMENTS
H6	Organic detritus	(organic)	>5%	10YR2/2	>5% organic detritus	Organic A horizon	None. This unit is the A horizon of the surface soil.
H5	Sand with organic	Sandy loam	>5%	10YR6/2	Roots, 1, fm, sv	Buried A horizon material (possibly root cast or burrow fill)	None. This unit resembles a buried A horizon, found south of the area where an older tree was removed while excavating.
H5col	Pebbly colluvium	Sandy loam	>20%	7.5YR5/3	Roots (1, fm, sv), 50% organic detritus	Bw horizon (some iron staining)	None. This unit is a pebbly slope colluvium with some rounded igneous clasts.
H5cd	Silty colluvium	Silt loam	>1%	10YR6/2	Charcoal clasts (>1%)	None	This unit is possibly a slope or scarp colluvium.
Qe	Sandy diamicton	Sandy loam	>5%	10YR5/2	None	Small stratified sand lenses and layers observed near base of unit.	This unit is most likely an older glacial till (Possession glaciation or older).
Q <sub>ms</sub>	Shattered mudstone	Silt loam	>1%	10YR5/3	Roots (1, co, v)	Lamination is visible in places but mostly massive in appearance.	This unit appears brecciated in most places by abundant clasts. Both normal and reverse offsets were observed on the shear planes. Two fabrics are evident - one consists of a set of low angle shear surfaces that are subparallel to the ground surface, and the second is at higher angles and has several well-defined, south-dipping reverse faults. Many of the shears and fractures form conjugate sets.
Q <sub>ms</sub>	Shattered grey claystone	Silt loam to silty clay loam	—	10YR5/1	None	Lamination preserved in places. Lithologically resembles pre-Vashon (Possession?) lacustrine deposits observed on the west side of Beacon Hill four downtown Seattle.	The shattered mudstone is probably a pre-Vashon lacustrine deposit. Bedding and lamination in this unit resembles various observed in other pre-Vashon lacustrine units near Seattle.
Q <sub>ms</sub>	Massive claystone	Clay loam	—	10YR4/1	None	Massive	The massive claystone is probably a pre-Vashon lacustrine deposit. Bedding was either destroyed by tectonic/glaciotectonic deformation or by weathering.

<sup>1</sup>Units shown on the trench log are designated by a unit code based on lithology, stratigraphic position, and inferred age (from oldest to youngest). Labels for subunits that correspond with A, B, or E horizons include the appropriate soil horizon designation.  
<sup>2</sup>Texture terms follow Natural Resources Conservation Service notation and description.  
<sup>3</sup>Estimate of area covered by clasts using size charts. Most clasts were subspherical to rounded, and occasionally faceted. Units Q<sub>ms</sub>, Q<sub>ms</sub>, and Q<sub>ms</sub> are strongly deformed and appear brecciated in most places; angular clasts are bounded on all sides by shears, faults, or fractures.  
<sup>4</sup>Primary color is dominant Munsell color of matrix, taken moist.  
<sup>5</sup>Type of organic material present. Root terms follow Natural Resources Conservation Service notation and description.  
<sup>6</sup>Terms for soil horizon properties follow Natural Resources Conservation Service notation and description.

**EXPLANATION OF SYMBOLS**

**FAULTS**

- Fault, displacement shown where observed
- - - Inferred fault
- - - Intraformation deformation contact

**CONTACTS**

- - - Primary contact

**UNITS**

- H6 Unit number
- d or dA Subunit label

**SYMBOLS**

- Clast (white = pebbles/cobbles; shaded clasts are color coded for each unit that the clast is derived from).
- ⌋ Root/root cast

EXCAVATION LOGS OF TWO TRENCHES ACROSS A STRAND OF THE SOUTHERN WHIDBEY ISLAND FAULT ZONE NEAR GRACE, WASHINGTON

January, 2005

By Brian L. Sherrod<sup>1</sup>, Elizabeth Barnett<sup>1</sup>, Harvey M. Kelsey<sup>2</sup>

<sup>1</sup>U.S. Geological Survey, Dept. of Earth and Space Sciences, Box 351310, Univ. Washington, Seattle, WA 98195  
<sup>2</sup>Dept. of Geology, Humboldt State University, Arcata, CA 95521