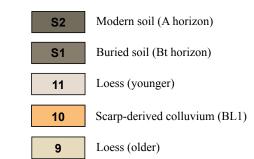


S2	Modern soil (A horizon)
<b>S1</b>	Buried soil (Bt horizon)
11	Loess (younger)
10	Scarp-derived colluvium (BL





Fault trace (bar and bal

illuminated from the northwest.

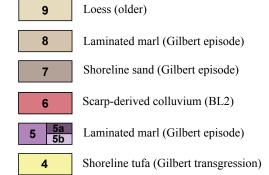
The West Valley fault zone (Granger and Taylorsville faults) and Salt Lake City segment

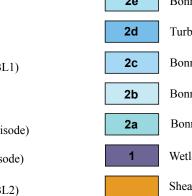
from Black and others (2003). Yellow circles indicate locations of the Baileys Lake trench

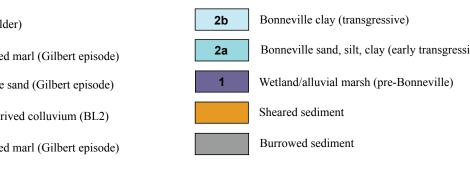
site at the north end of the Granger fault, and the Penrose Drive trench site at the north

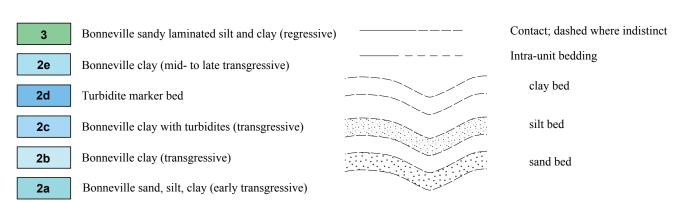
of the Wasatch fault zone (Warm Springs, East Bench, and Cottonwood faults); traces

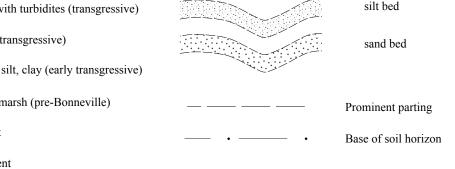
end of the East Bench fault (see DuRoss and others, 2014). Shaded-relief base is from 2-m posting LiDAR data (2006; Utah Automated Geographic Reference Center)

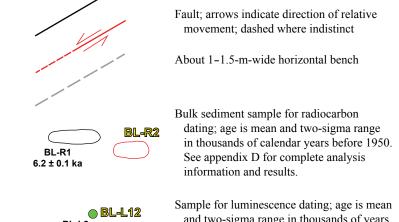


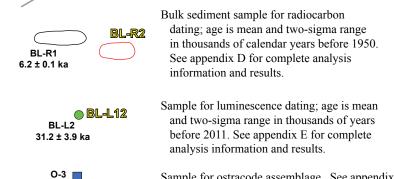


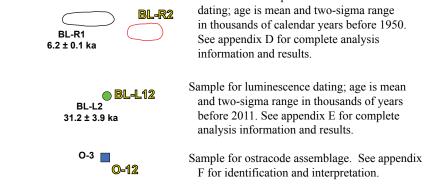


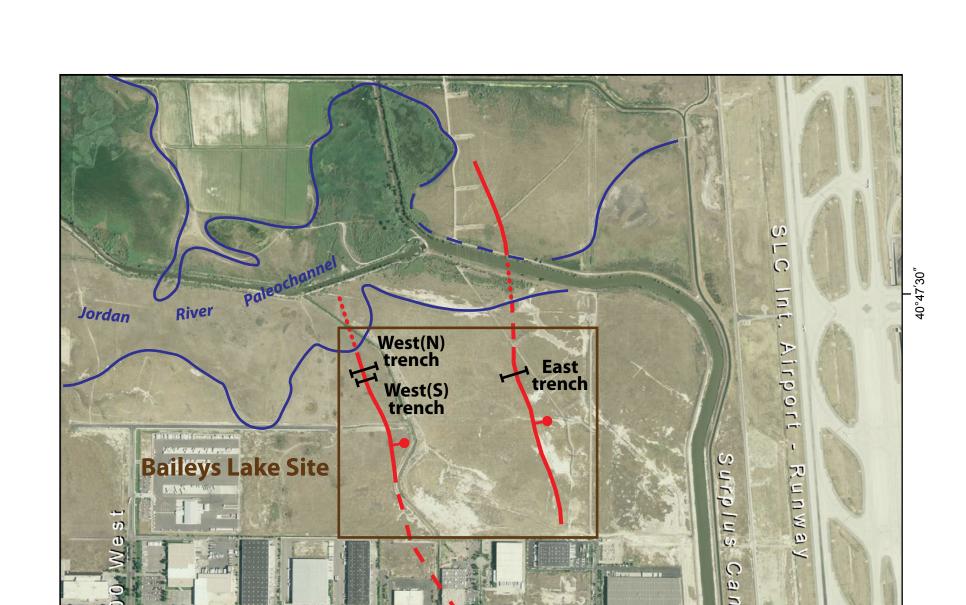




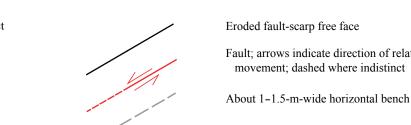








Baileys Lake trench site on the northern Granger fault, showing fault-scarp locations (red lines; bar and ball on downdropped side), trench locations (black I-shapes), and margins of the Jordan River paleochannel (blue lines). Base is high-resolution (1-m) orthophoto (2009; National Agriculture Imagery Program).



BL-L4 West(S), south 19.7, 1.2 2.40 2c BL-L7 West(N), south 21.7, 1.9 1.80 2e BL-L8 West(N), south 21.4, 2.2 1.55 3 Fine lacustrine sand OSL NA BL-L9 West(N), south 20.7, 2.4 1.25 3 Lacustrine clay, silt, OSL NA BL-L10 West(N), south 22.2, 3.5 0.15 11 BL-L11 West(N), north 19.8, 2.8 0.80 9 Loess BL-L12 West(N), north 22.0, 3.3 0.55 S1 Paleosol BL-L13 West(N), north 21.4, 2.8 1.00 5 Lacustrine clay, silt, OSL NA 12,530  $\pm$  1820 and fine sand

BL-L16 West(S), south 27.9, 2.0 2.15 2a Fine lacustrine sand OSL NA 31,030 ± 3920 Note: See appendices C and D for complete analysis information and results.

Samples BL-L6 and BL-L15 collected as duplicates (not analyzed) of samples BL-L7 and BL-L10, respectively.

Station coordinates are horizontal and vertical meter marks along arbitrary reference grid for trench.

BL-L14 West(N), south 18.7, 2.6 1.00 7 Fine to coarse

Summary of dating results for the Baileys Lake site.

BL-R3-2 West(N), north 22.3, 3.5 0.40 10

<sup>3</sup> See appendix A for descriptions of stratigraphic units and appendix B for description of pedogenic soil S1.
<sup>4</sup> AMS, accelerator mass spectrometry; OSL, optically stimulated luminescence. <sup>5</sup> Laboratory-reported radiocarbon age with one standard deviation uncertainty. B.P. is before present (AD 1950). NA, not applicable. <sup>6</sup> Age in calendar years before present (present is taken to be AD 1950 for AMS ages and AD 2011 for OSL ages), rounded to nearest decade; two-sigma uncertainty.

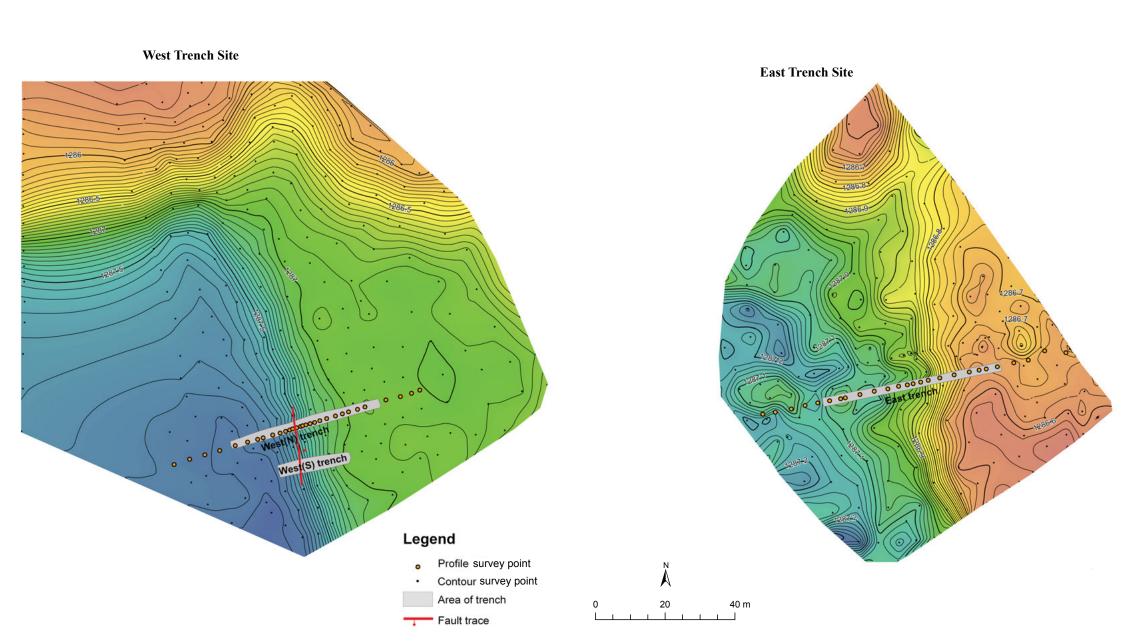
BL-R2-1 West(N), north 22.1, 3.1 0.82 6 Scarp-derived colluvium AMS  $675 \pm 30$   $620 \pm 80$ 

BL-R2-2 West(N), north 22.1, 3.1 0.82 6 Scarp-derived colluvium AMS  $1800 \pm 25$   $1740 \pm 100$ 

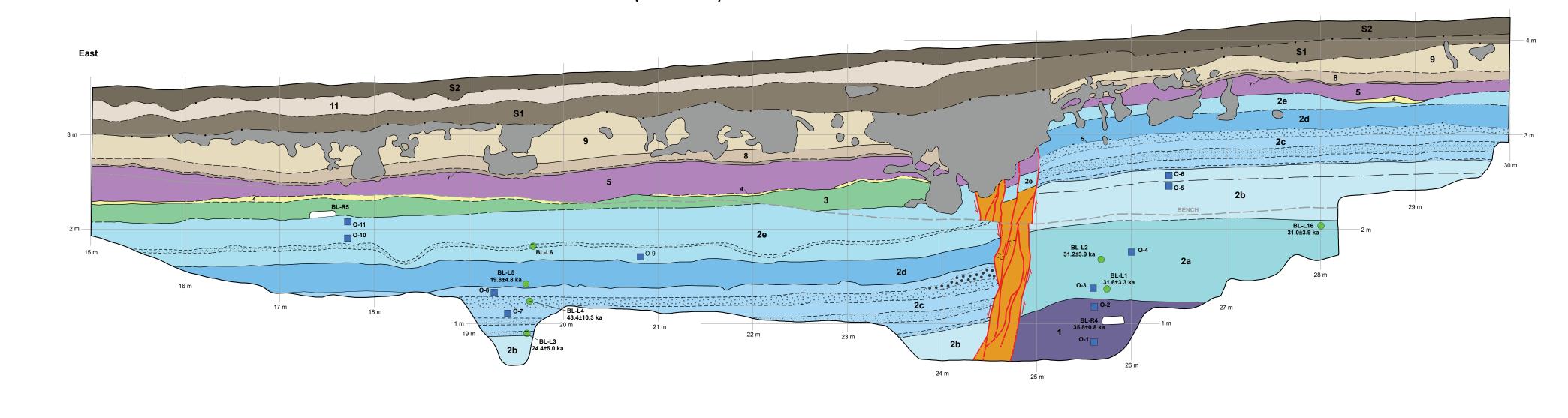
BL-R3-1 West(N), north 22.3, 3.5 0.40 10 Scarp-derived colluvium AMS  $3890 \pm 30$  4330  $\pm 100$ 

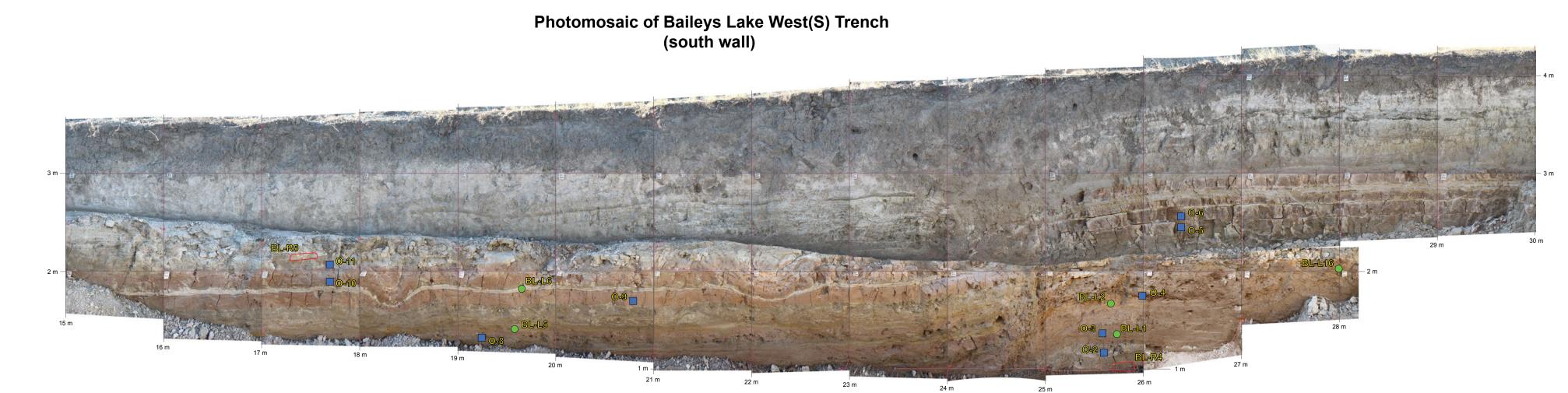
Scarp-derived colluvium AMS  $4280 \pm 30$   $4850 \pm 60$ 

OSL NA



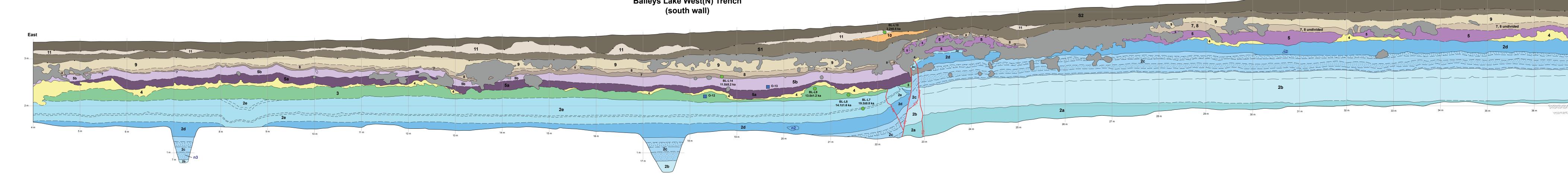
Topographic maps for the trench sites at the Baileys Lake site, showing trench locations and trace of the Granger fault where projected to the surface between the two western trenches. Elevations are relative to mean sea level, based on GPS data measured in 2010; note difference in contour interval between the two maps (west site = 5 cm, east site = 2 cm). Scarp profiles shown on figure 7.



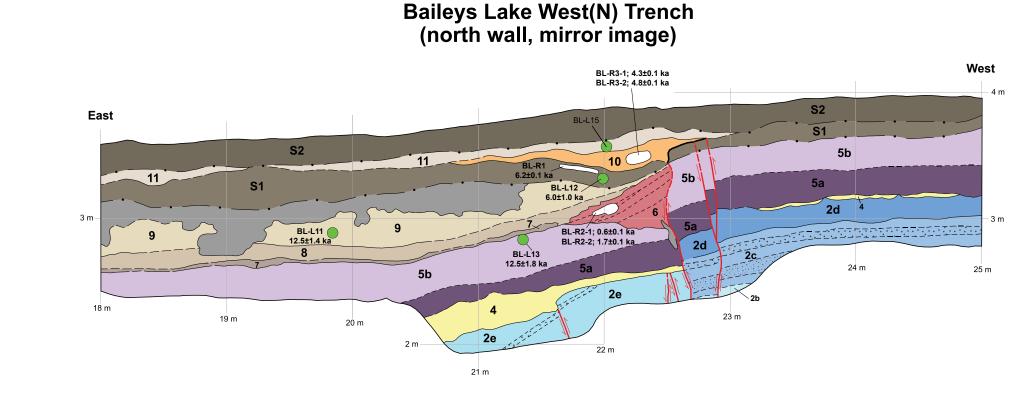


n1 Well-sorted, non-stratified (liquefied) sand injected horizontally along

## n2 Relatively large clay rip-up clast within graded sand interbed (turbidite) n3 Angular cobble (9 x 7 x 2 cm) of dark gray micrite (dropstone)



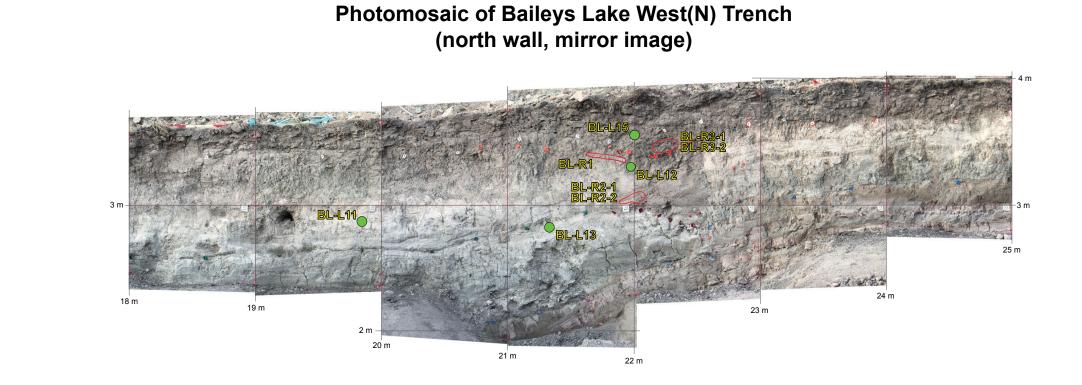




Utah Geological Survey Special Study 149

Insights from the Baileys Lake Trench Site

Late Quaternary Paleoseismology of the West Valley Fault Zone-



## **Baileys Lake East Trench**

