Geoarchaeology in Grand Canyon
Update for 2007 and 2008

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2007 and 2008 Activities
2007 and 2008 Study Area Locations

- C:02:032
- C:13:323, C:13:327
- G:03:064 (Arroyo Grande)
- A:15:039
- LC
- FF

Map of Arizona showing study area locations.
Tanner Bar, eastern GC

near-surface OSL age: $1.48 \pm 0.49$ cal kyr

Basal OSL age: $12.27 \pm 1.59$ cal kyr
Tanner Bar, eastern GC
1. Pebble gravel, 52 cm thick, w/ 10 cm thick matrix-supported lenticular sub-unit. Matrix is vfl-s qz sand supporting larger tributary channel gravel.

2. Red sand, 7 cm thick, internally massive, grades upward to rippled silt drape. vfl-fl qz sand. Tributary flood sand.

3. Sand, 8 cm thick, w/ silt drape at upper contact. vfl-fl qz sand. Contains >1 cm charcoal clasts. Mainstem overbank deposit.


5. Charcoal horizon, 3 cm thick, ashy vfl-fl sand. Possible cultural cultivation surface?

6. Sand, 22 cm thick, internally massive w/ silt drape, bioturbated. vfl-vfu qz sand, fine mainstem flood deposit.

7. Lithic pebbly sand, 10 cm thick, with fine large cobbles, weakly cross-beded. vfl-fl sand w/ pebbles, single boulder intact. Tributary sand lens and flow over mainstem alluvium.

8. Sand, 25 cm thick, internally massive, bioturbated, vfl-vfu qz sand, mainstem flood deposit, possibly eolian reworked.

9. Charcoal and tributary sand, 30 cm thick, patches of ashy sand overlain by discontinuous lenses of tributary sand. Possible cultural horizon is overstepped and reworked by tributary debris flow boulders.

10. Sand, 27 cm thick, internally massive. vfl-vfu qz sand, minor silt, bioturbated. Mainstem flood deposit, possibly eolian reworked.

11. Charcoal and ash-rich sand, possibly a cultural "hearth". Sand vfl-fl. Contains charcoal clasts ~1.5 cm. Strongly lenticular.

12. Sand, 20 cm thick, internally massive, vfl-fl qz sand, mainstem overbank deposit or bioturbated eolian coppice.

13. Sand, 57 cm thick, 5-7 cm thick, cultural "hearth". Ashy sand vfl-fl. Charcoal clasts up to 1.5 cm thick. Strongly lenticular.

14. Charcoal and ash-rich sand, 5-7 cm thick, cultural "hearth". Ashy sand vfl-fl. Charcoal clasts up to 1.5 cm thick. Strongly lenticular.


16. Sand, 40 cm thick, fine-md. Unit is covered, interpretation not possible. Mainstem or eolian sand?

17. Fire-cracked rock and charcoal, 25 cm thick, strongly lenticular, possibly cultural.

18. Sand, 55 cm thick, weak slope-parallel stratification, vfu-fl qz sand, strongly bioturbated. Eolian coppice, possibly reworked alluvium?
G:03:064 (Arroyo Grande)

14C from this arroyo:
3200 cal BP and 170 cal BP
(locations not published)
(Hereford et al., 2000)

OSL/14C sampling locations 〇

Location of up-channel profile

Location of down-channel profile
Cal BC 3970 to 3780

6.42 ± 0.35 kyr

Cultural horizon (flakes, charcoal)

channel bottom

~170 $^{14}$C Cal yr BP

3.03 ± 0.54 cal kyr
HFE Related Geoarchaeological Activities