# Wet-sieving uncovers additional human relics

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Dry sieving excavated archaeological deposits in the field at a rockshelter site in the eastern Chichester Range, Pilbara. Credit: Stuart Rapley/Archae-aus

A Western Australian archaeology consultancy has conducted a cost-benefit analysis of improved treatments for sediment samples taken from ancient occupation sites.

Archaeologists examine sediments for evidence of a site's human history.

Archae-Aus research manager Dr Caroline Bird says archaeologists in private practice typically dry-sieve excavated material for private clients,

but wet-sieving achieves much better results.

"It was really to see whether the time spent getting the extra data from doing more fine sieving actually was justified in terms of cost," she says.

While wet-sieving is more time consuming than dry-sieving, Dr Bird says it dramatically improves the speed and quality of analysis as it is easier to examine clean gravel than dirty gravel.

She says they prefer to analyse samples of visible strata in a cave floor, but if they detect no change of soil colour they sample "spits" of about five centimetres in depth.

Archae-Aus staff sampled two such spits from one site, and one spit from another, in Nyiyaparli native title lands near Newman in the Pilbara.

They passed the samples through 6mm and 3mm mesh sieves on-site, as per usual practice.

In their Perth laboratory they washed and wet-sieved material caught in the 3mm sieve.

Dr Bird says this resulted in a much better recovery of objects such as charcoal and bone fragments; and artefactual stone remains such as tiny flakes.

She says this gives a much better idea of how the sites were used.

Minute flakes, for example, indicate a tool making site, and also whether toolmakers used local stone or raw materials from another location.

In the paper just published, she cites Langley et al (2011) who notes that

wet-sieving can turn up extremely rare items undetectable by dry sieving, such as beads and bone artefacts.

While she is yet to find any of these herself, Dr Bird says they do occasionally occur in Australian ice age sites.

She says samples taken from past excavations in South Africa, and wet-sieved decades later, have resulted in similar finds missed in the original studies.

"In terms of the quality of the result, there's no question that you get a better result," she says.

She says the present study shows wet-sieving costs are 10 – 50 percent higher, depending on the site's complexity.

Consulting archaeologists assess mine sites to comply with the Aboriginal Heritage Act's site protection requirements, and terms laid down under individual Native Title agreements.

**More information:** Bird et al (2014) "Time and efficiency in data recovery: an experiment comparing wet and dry sieving in Pilbara rockshelter excavations," *Journal of the Australian Association of Consulting Archeaologists* Vol 2 Article 1.

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