



Project Summary

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Geologic Interpretation of the Discovery Site of Ancient Human Remains, Kennewick, Washington

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Problem Statement: Human remains found on Corps property in the shallows of Lake Wallula in Kennewick, WA, focused national attention on the Native American Graves Protection and Repatriation Act (NAGPRA), which requires that remains found on U.S. government land be returned to related Native Americans for reburial. The “Kennewick Man” remains yielded a preliminary radiocarbon age of almost 9,000 years, too old to be directly associated with any modern tribes or bands in the Pacific Northwest. Because the remains were not found in situ, there was no direct evidence for geologic age or affiliation, and controversy ensued.



Interagency study team describing sediment strata and screening for artifacts

Objectives: GL geologists were tasked to determine the geologic setting and age of the discovery site of the Kennewick Man remains, to answer the question: is it geologically possible for the remains to have been at this location continuously for up to 9,000 years?

Scope: Identify the age and mechanism of landform development at the Kennewick site. Interpret the geologic evidence in a regional context, including depositional environments indicated by the stratigraphic sequence, and geomorphic processes currently active at the site that could have introduced the remains into the reservoir.

Approach: The research included detailed field investigations of a 350-m stretch of the exposed reservoir shoreline, study of regional geologic maps and historical aerial photographs, and laboratory petrographic study of sediment samples collected in the field. Research was coordinated with U.S. Department of Agriculture soil scientists, U.S. Geological Survey tephrochronologists, U.S. Department of Interior and Corps archaeologists, U.S. Department of Justice representatives, and university researchers.

Results: The Kennewick remains are associated with an ancient terrace of the Columbia River, composed of fine-grained sediments that accumulated in a slackwater area following the great post-glacial floods of eastern Washington. A period of sub-aerial exposure and soil formation ended near the time of the Mt. Mazama volcanic eruption, about 6700 years ago. A layer of Mazama tephra (volcanic ash) above the stratum associated with the remains, and a radiocarbon date of more than 9,000 years at the base of this stratum, potentially bracket the age of the remains, and indicate that the stratigraphic sequence has not been disturbed by historic or modern human activity.

Conclusions: Geologic characteristics of the site are consistent with the reported age of the Kennewick Man. The U.S. Department of Interior is currently conducting non-destructive studies of the remains to determine cultural affiliation. GL expertise in site geology and petrography continues to contribute to these studies (as of March 1999).