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## NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

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### MEMO

To: Edna Feighner, Review & Compliance Coordinator

From: Richard Boisvert, State Archaeologist

Re: Reconnaissance for Deeply Buried Deposits

Date: April 10, 2003

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The question has been raised as to when field methodologies should be adjusted to identify deeply buried deposits and what are the appropriate field methods for reconnaissance and testing within such deposits.

Standard methodologies of walkover reconnaissance and systematic shovel test pit excavation are generally preferred. However there are cases where the geomorphology is such that the area of potential effect within the project includes depositional environments that may include cultural components under sediments that exceed a meter in depth. These include alluvial deposits along the major rivers, especially on point bars and at the confluence of minor streams with the main stems of the larger rivers. Colluvial deposits at the toe of steep slopes and thickened plowzones created by sheet erosion on high tilled slopes may also generate thick deposits that cover archaeological components. Other site specific circumstances might also create thick overburdens on archaeological components. When such conditions exist then the contracting archaeologists will need to incorporate appropriate survey methods that have a reasonable possibility of recovering cultural materials.

Methods for recovering deeply buried components may include excavation by hand of 1 by 1 meter or 1 by 2 meter squares. Stepping of the excavation unit, especially larger units, may allow for adequate penetration of the overburden and reveal the pertinent stratigraphy and recovery of materials.

Machine assisted excavation may also be appropriate. In cases where overburdens can reasonably be determined to be culturally sterile, as in areas with modern fill or deep alluvial deposits created by 19<sup>th</sup> or 20<sup>th</sup> century erosion, then removal without screening the overburden is appropriate. In settings where deep and stratified cultural components are integrated with sterile layers, then screening will be necessary. The screening will be on a sampling basis, as it is unrealistic to attempt total screening of machine excavated material. In cases where screening of all deposits is necessary, then hand excavation would also need to be employed. Sampling regimes will need to be established on a case by case basis depending upon the kinds of deposits encountered and the kinds of cultural material that can be reasonably expected. Consulting archaeologists may want to review the scopes of work for such projects with this office and we welcome such opportunities. They should have information on the kinds of deposits to be investigated (lacustrine, riverine, colluvial, historic fill, etc), the kinds of sites anticipated in the project area (Paleo, Late Woodland, historic industrial, etc) and details about site access and equipment under consideration.

Machine excavation will require close monitoring by a 36CFR61 qualified archaeologist. The individual responsible for the monitoring will need to be able to recognize subtle changes in stratigraphy and be prepared to slow or halt the machine excavations in order to evaluate the deposits.

**IN ALL INSTANCES OF DEEP TESTING, SAFETY CONSIDERATIONS ARE PARAMOUNT. ALL DEEP TESTING SHALL CONFORM TO STATE AND FEDERAL SAFETY STANDARDS.**