

# 6 Summary and Conclusions

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## Geomorphology

Geomorphic mapping has identified three primary landform surfaces (i.e. valley slopes, terraces, and the floodplain) which are further subdivided according to environments of deposition or underlying parent geology. Bordering the floodplain of the different fluvial systems in the study area are topographically higher abandoned floodplain surfaces or terraces and valley slopes composed of Tertiary age sediments. Two Pleistocene age terraces were identified and mapped in the main Red River Valley. In the Big Cypress Bayou reach, terraces were not differentiated by age on the geomorphic maps. The major floodplain environments of deposition are point bar, lacustrine, lacustrine delta, abandoned channel, abandoned course, backswamp, and undifferentiated tributary alluvium. Natural levees were not identified or mapped as a separate environment of deposition because of the mapping scale and the abundance of this environment in the project area.

The development of the Big Cypress Bayou drainage basin began during the late Tertiary and early Pleistocene. Fluvial downcutting and lateral migration by the various stream courses have created a well-defined alluvial valley and floodplain. Terraces are situated along the valley walls, midway between the Tertiary uplands and the floodplain of the Big Cypress Bayou drainage basin. Geomorphic data indicate that the PB2 surface may extend in age from approximately 1,000 years before the present to possibly the late Pleistocene. Data collected during this study possibly indicate that the Big Cypress Bayou floodplain above Caddo Lake may contain early Holocene to late Pleistocene age abandoned channels.

Formation of the Red River Raft during the late prehistoric and early historic time blocked riverflow on the Red River and created a series of large valley margin lakes. Caddo and Soda lake were formed as a result of the raft and these lakes covered much of the present day study area. Historic and geomorphic data indicate the lakes were formed less than 500 years ago.

## Archaeological Significance

Historic archaeological sites were not evaluated by this study. The majority of prehistoric archaeological sites are located on terraces and valley slopes adjacent to Big Cypress Bayou.

A general correlation exists between Caddo sites and historic shorelines for Caddo and Soda Lakes. Sites are generally absent from the area beneath historic Soda Lake. It is probable that sites may be buried beneath lacustrine sediments within the historic lake limits. Maximum thickness of lacustrine deposits in the study area is unknown. Lacustrine sediments are estimated to range from 3 ft (0.91 m) to a maximum of 10ft (3.05 m) based on similar sites reported for the Red River valley (Smith 1982).

In addition to lake shorelines, Caddo sites generally correlate with point bar (PB) deposits associated with the present meander belt. These sites are located upon natural levees of abandoned channels and courses connected to the present meander belt.

Archaic sites are concentrated mainly on valley slopes and terraces. Absence of Archaic sites within the floodplain suggests that these surfaces may be buried by vertical accretion of sediment and/or the landforms which comprise the floodplain may be younger at some locations. The ages and the general meander belt chronology for the Red River Valley has been tentatively developed by Saucier (1974). Exact age limits for specific floodplain components however are less certain and will require evaluation on a case-by-case basis.

The potential for archaeological sites at the surface and in the subsurface in the Big Cypress Bayou area is considered to be very favorable. Surface and buried sites are highly probable for both the PB2 and terrace surfaces. Favorable locations on either of these surfaces occur in close proximity to abandoned channels and courses.

Field and laboratory data obtained by this study show that organics are not readily preserved in the project area. Degradation of organic sediments suggests that easily weathered archaeological artifacts are not readily preserved unless rapid burial has occurred.

Existing data suggest that in the headwaters of Caddo Lake, the different floodplain components may span the entire Holocene and possibly extend into the late Pleistocene. Exact chronological boundaries are not possible with the limited data presently available. The archaeological record may provide the best evidence to determine more specific chronological boundaries and ages for the various floodplain features.

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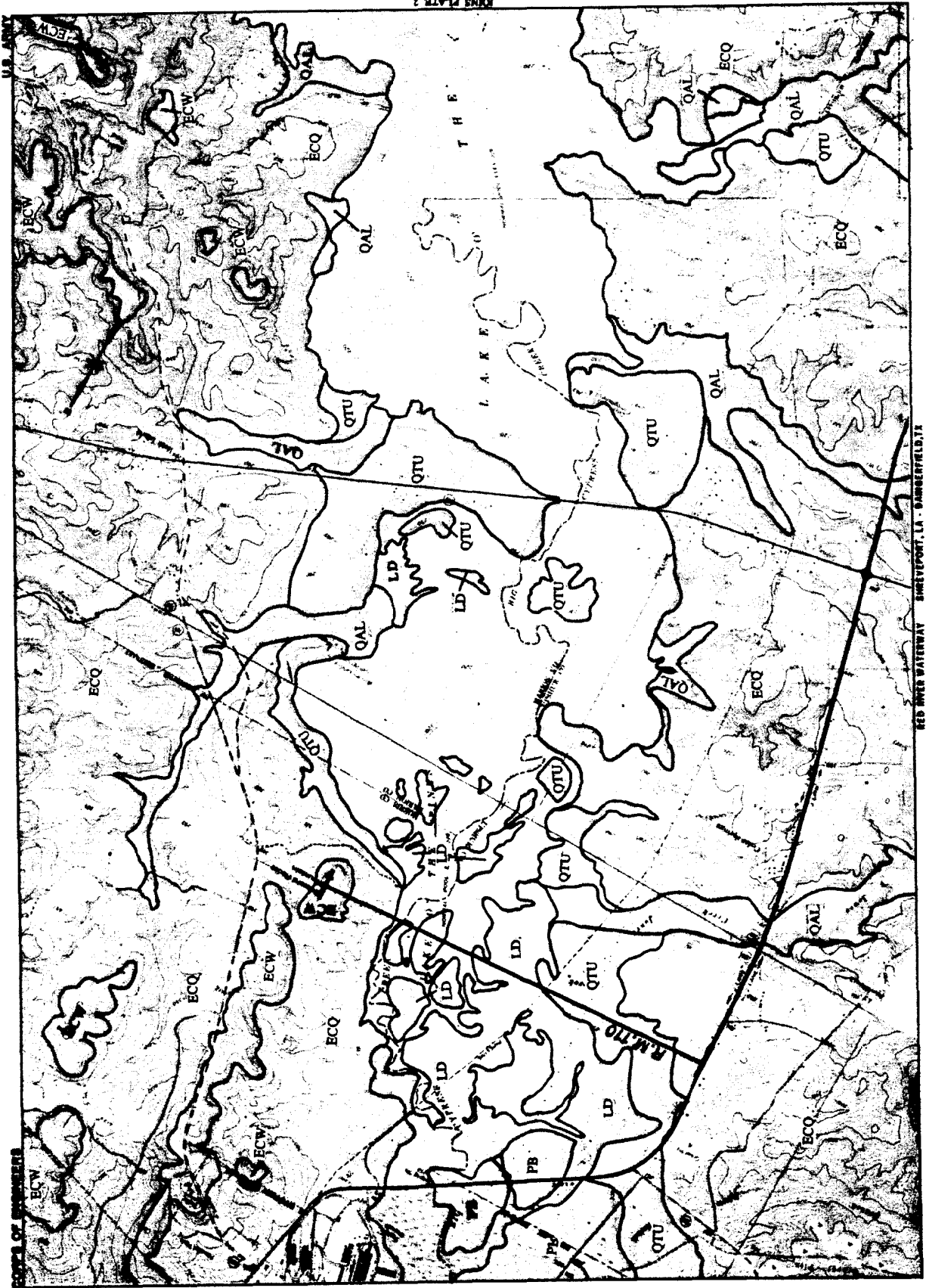


PLATE 1 OF 13



RED RIVER WATERWAY - BURGESSVILLE, LA. - GANSEVOORT, TX



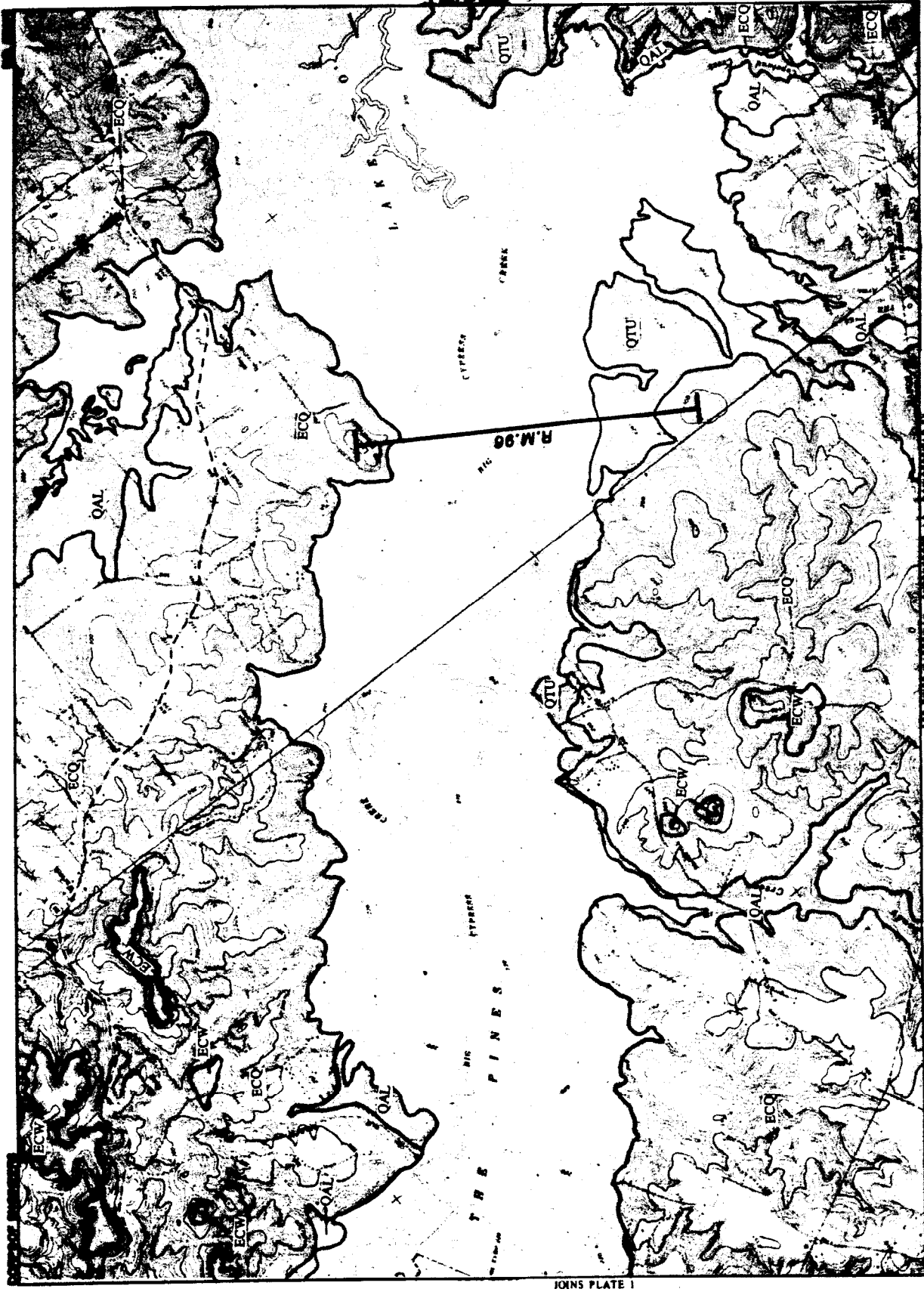


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Plate 2



PLATE 3 OF 13



RED RIVER WATERWAY SHREVEPORT, LA - DANVERFIELD, LA

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