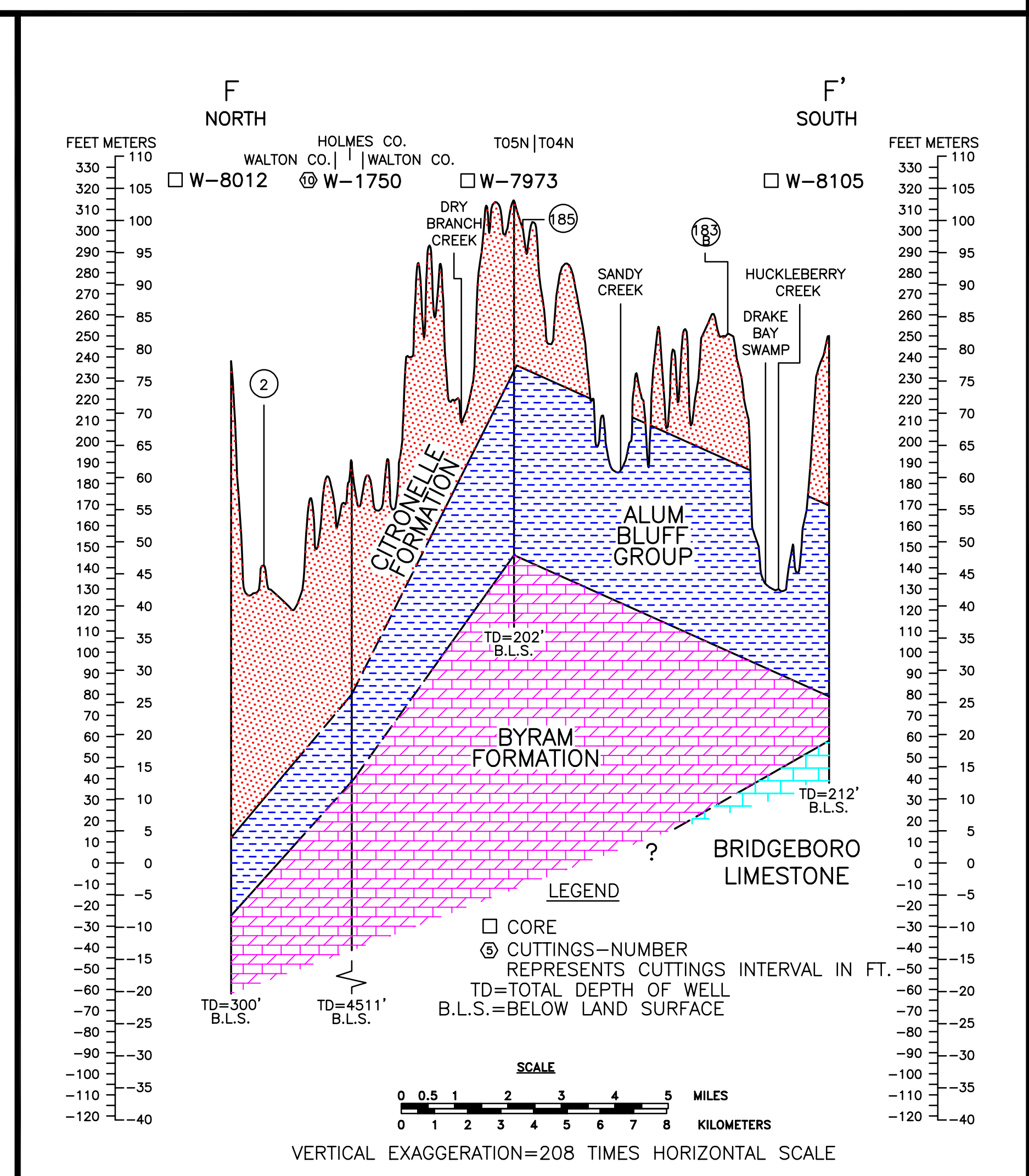
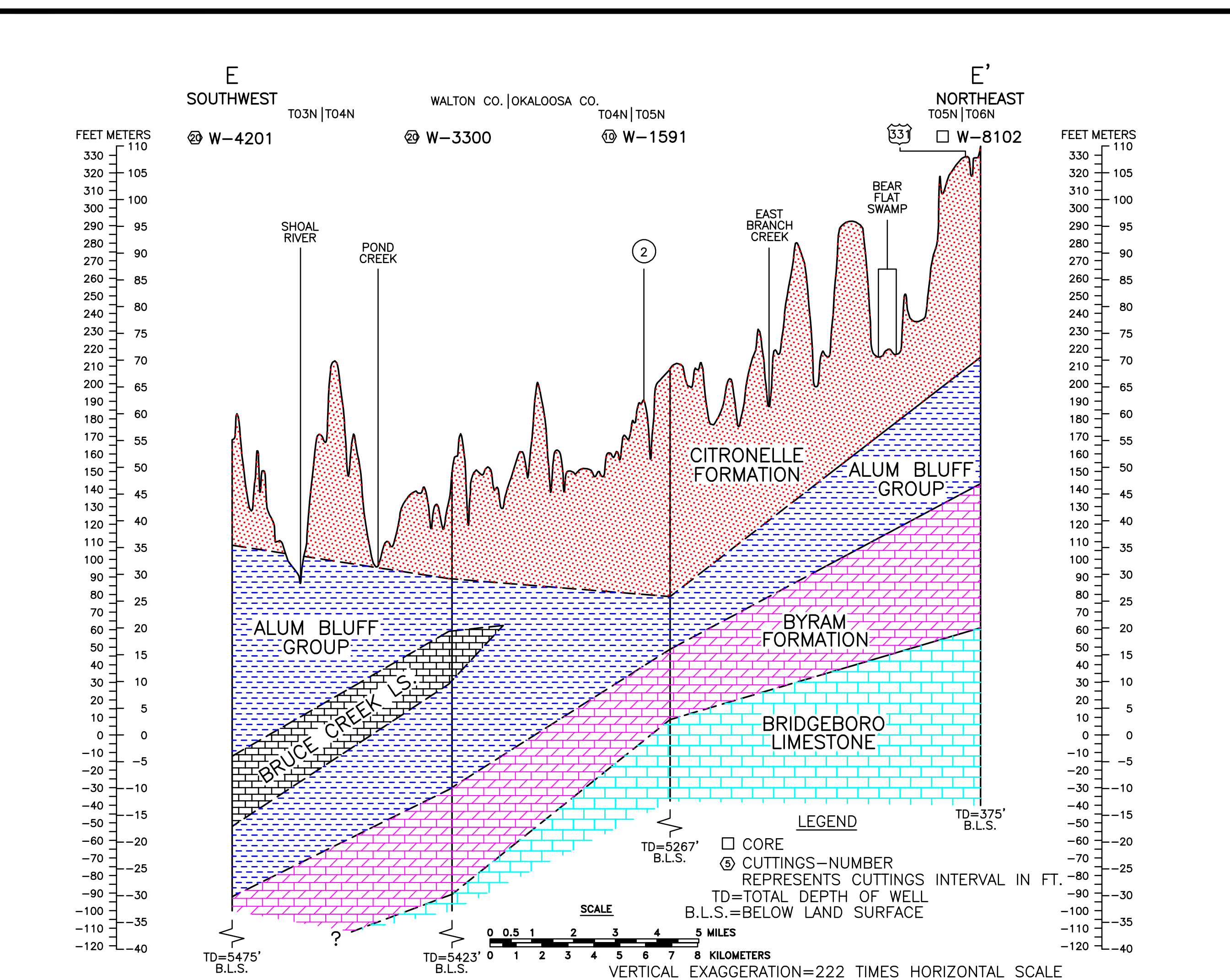
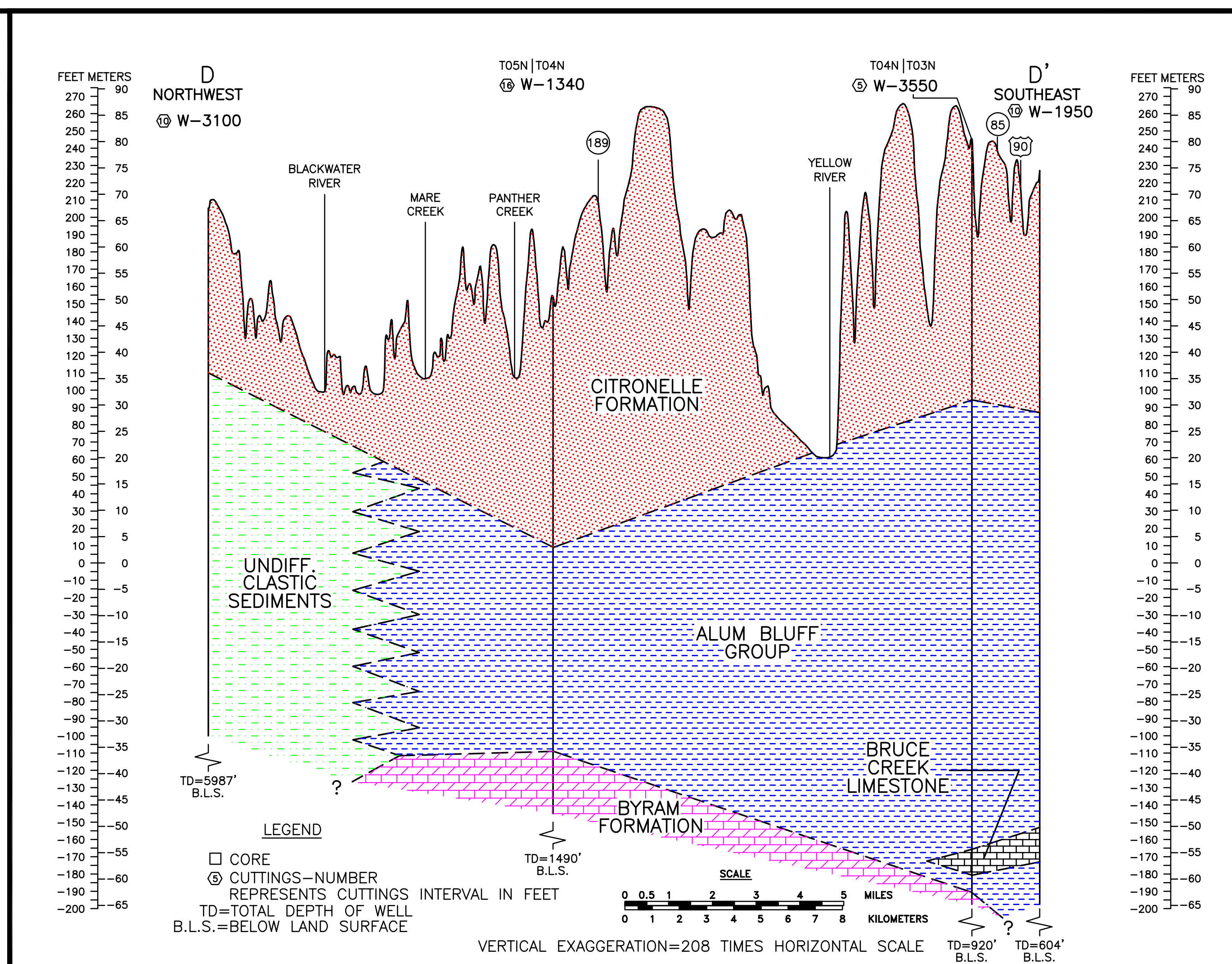
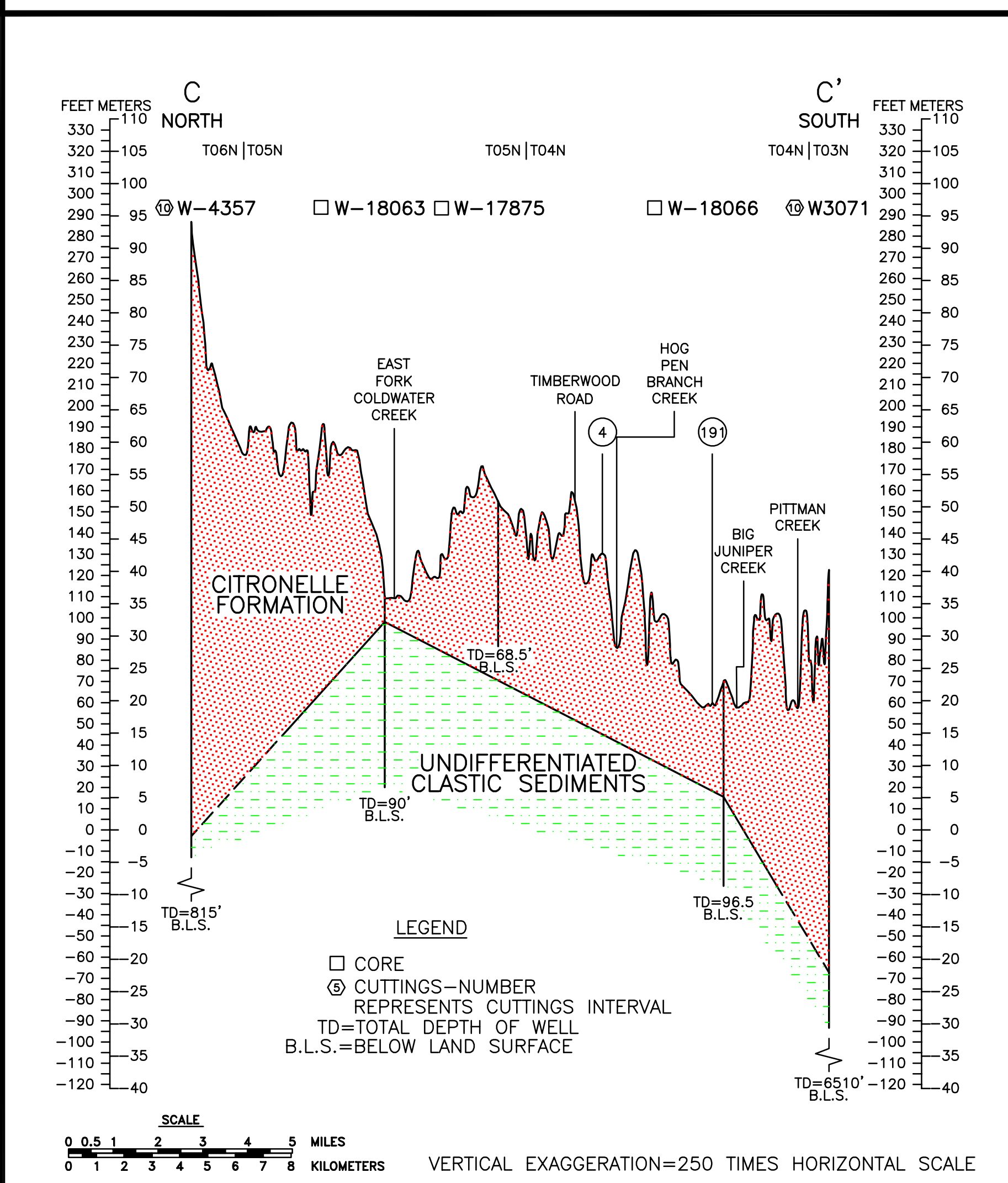
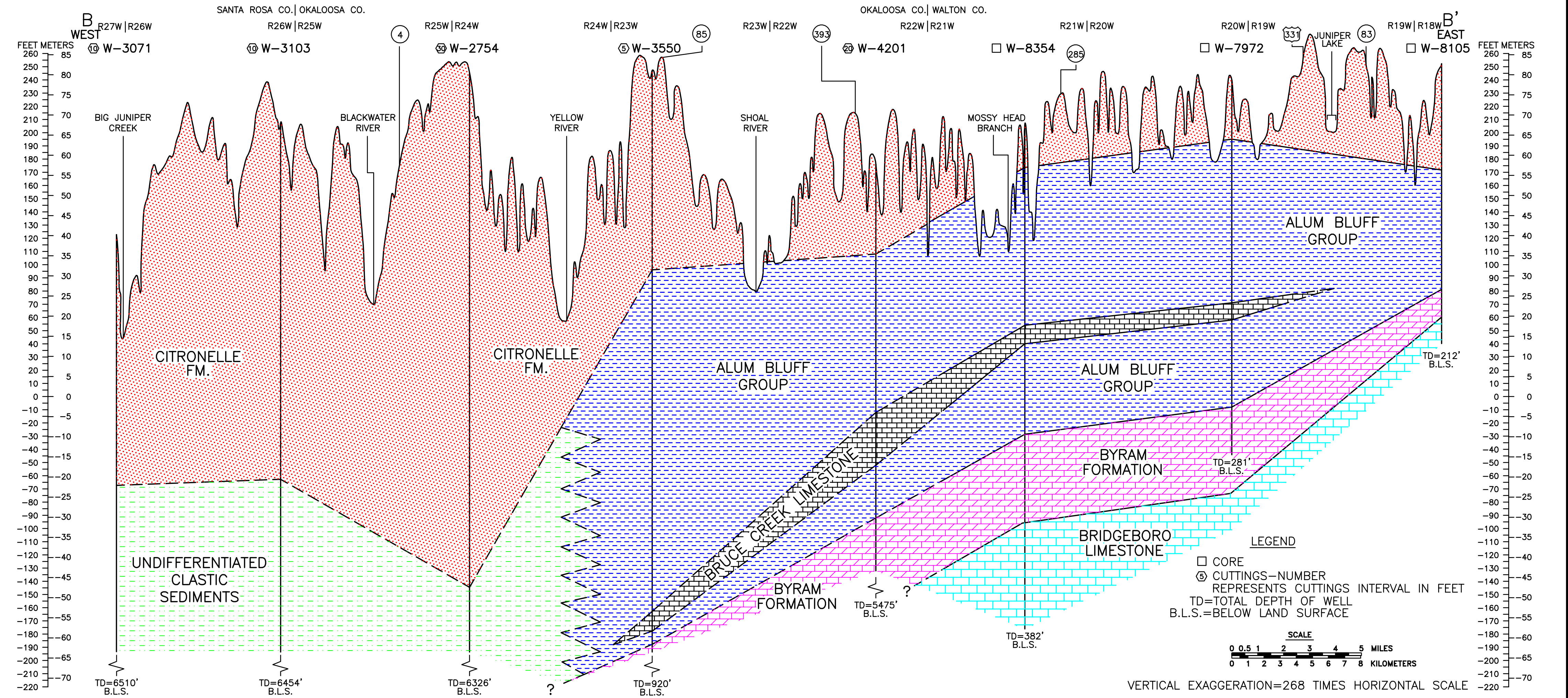
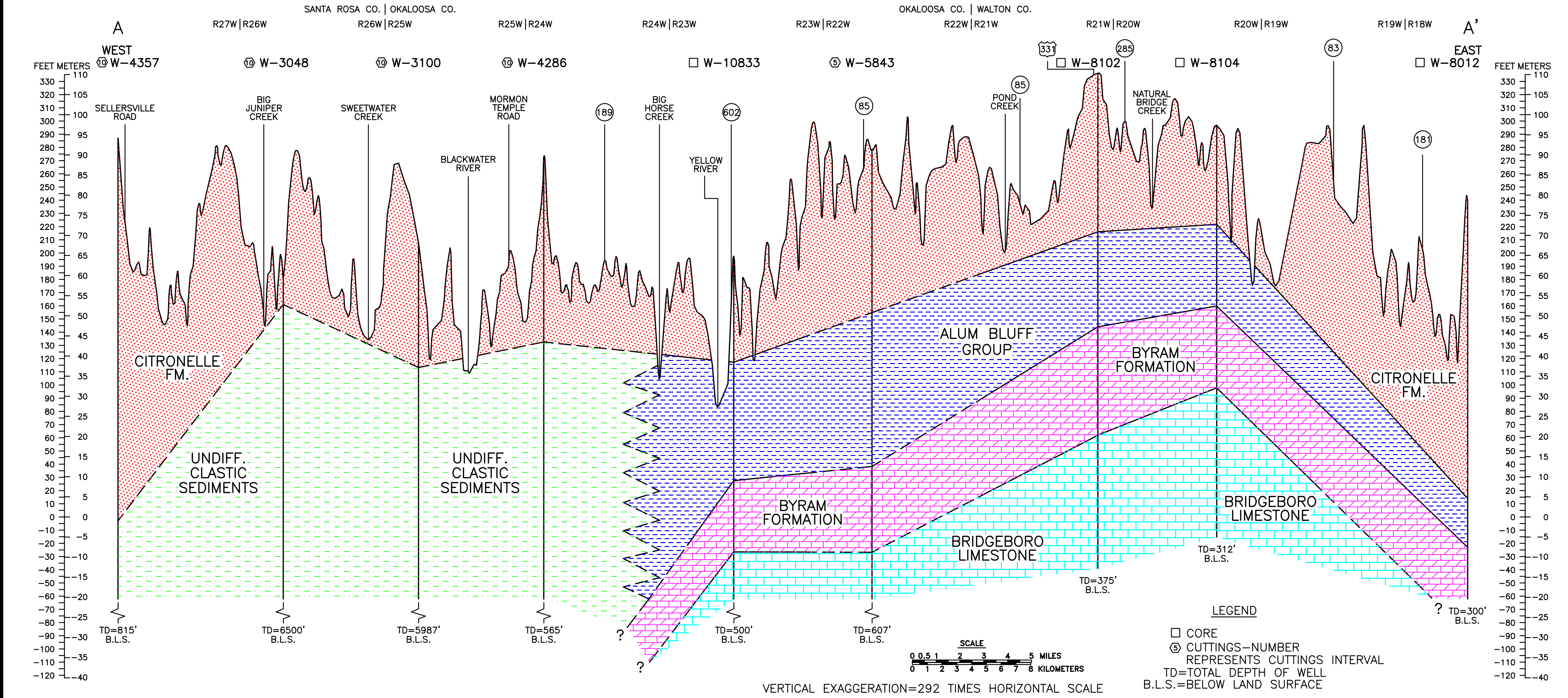




The near surface geology of the northern portion of the U.S.G.S. 1:100,000 scale Crossview quadrangle is both simple and complex in nature. As part of the structurally unimpacted Eastern Gulf Coastal Plain, the region consists of gently dipping, generally unconsolidated sequences of Oligocene to Pliocene sediments. Physiographically, it is comprised of gently dipping Neogene fluviolacustrine siliciclastics of the Western Highlands, terraced Pleistocene-Holocene siliciclastics of the Gulf Coastal Lowlands, and various floodplains. Several recent Neogene coastal terraces and ridges have been recognized in the study area (Reay, 1970). Surface topography has been deeply incised, resulting in some impressive relief that is uncharacteristic of most Florida landscapes. Florida's highest elevation is located within the study area in northern Walton County at 345 feet (105.2 meters) above sea level. Some karst influence is evident in western Holmes County and northeastern Walton County and is expressed as dissolution valleys, natural bridges and spring-fed lakes.

The study area falls within two geomorphic provinces - the Southern Pine Hills District and the Dougherty-Kurt Plain District (Scott, in prep.). Most of the mapped area lies in the Western Highlands portion of the Southern Pine Hills District. A limited portion lies in the Dougherty-Kurt Plain District of the Dougherty-Kurt Plain District.

The Western Highlands and the Gulf Coastal Lowlands comprise the Southern Pine Hills District in the western panhandle. The rolling topography of the Western Highlands formed primarily on the Citronelle Formation. Alum Bluff Group siliciclastic sediments occur at the surface in the easternmost portion of the Western Highlands. The topography of the highlands is the result of fluvial processes eroding the Miocene Alum Bluff Group marine sediments and the Pliocene Citronelle fluviolacustrine sediments. Elevations range from more than 300 feet (91.4 meters) to approximately 25 feet (7.6 meters) above sea level.

The De Funiak Springs-Bonifay Karst Hills cover much of the western portion of the Dougherty-Kurt Plain District near northern Walton County east to the Jackson-Holmes County line and south into Washington County. The elevations of the hilly terrain range from more than 100 feet (30.5 meters) to less than 100 feet (30.5 meters). The landscape is very similar to that of the Southern Pine Hills District. The De Funiak Springs-Bonifay Karst Hills cover much of the western portion of the Dougherty-Kurt Plain District near northern Walton County east to the Jackson-Holmes County line and south into Washington County. The elevations of the hilly terrain range from more than 100 feet (30.5 meters) to less than 100 feet (30.5 meters). The landscape is very similar to that of the Southern Pine Hills District.

From a sedimentologic perspective, the western Florida panhandle is of special interest because it is located between the predominantly carbonate sediments of the Florida Platform, and the siliciclastic Gulf Coastal Plain sequences of the Mississippi Embayment. While this regional, carbonate-siliciclastic distinction is most evident in Paleogene rocks, the general trend of increasing marine influence eastward into Florida is also observed in Neogene sediments. Miocene and Pliocene surface exposures in the study area include a variety of transitional and shallow marine facies, including fluvial channel fills with pebbled wood, planar and trough cross-stratified sands, *Ophelasma* -rich coarse sands, burrow-mottled clays, and shell beds with diverse molluscan assemblages.

It is this sedimentologic complexity that has resulted in the historic confusion and difficulty in the recognition and delineation of stratigraphic units within the study area. Rapid facies changes and poor outcrops have made facies correlation nearly impossible. Consequently, many previous investigations have attempted to utilize lithologic correlations and correlative facies, which has led to significant confusion within the literature regarding the stratigraphy of this area. The Alum Bluff Group is a highly variable in thickness and lithology. It ranges from around 400 feet (122 meters) to over 1000 feet (305 meters) thick. The distribution of this unit is confined to areas east of a line just west of the Yellow River, generally with ranges of 48 to 75.8 feet (14.6 to 23.1 meters) below land surface in W-18063, dark gray, carbonaceous clays (clay) with minor beds of micaceous, heavy mineral, chert and limestone to a mollusk rich sandy shell bed. It is the presence of the marine mollusks that differentiate this unit from the Citronelle Formation. The general lithology of the Undifferentiated Clastic Sediments ranges from a light gray to pale yellow, medium to coarse quartz sand and clay with minor beds of micaceous, heavy mineral, chert and limestone to a mollusk rich sandy shell bed. It is the presence of the marine mollusks that differentiate this unit from the Citronelle Formation.

Sediments of the Alum Bluff Group unconformably overlie the Citronelle Formation and the Byram Formation. The Alum Bluff Group is a highly variable in thickness and lithology. It ranges from around 400 feet (122 meters) to over 1000 feet (305 meters) thick. The distribution of this unit is confined to areas east of a line just west of the Yellow River, generally with ranges of 48 to 75.8 feet (14.6 to 23.1 meters) below land surface in W-18063, dark gray, carbonaceous clays (clay) with minor beds of micaceous, heavy mineral, chert and limestone to a mollusk rich sandy shell bed. It is the presence of the marine mollusks that differentiate this unit from the Citronelle Formation.

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