Figure III-5-5. Discolored water from erosion of exposed cohesive sediment along the Keta shoreline in Ghana, West Africa, July 1996

coast is shown in Figure III-5-6. These same undulations could be seen at the same location in several aerial photos taken over a 35-year period. Therefore, these features are distinguished from migrating alongshore sand waves which also occur here. Subsurface investigations at this location have subsequently revealed considerable alongshore variability in the stratigraphy of the underlying sediments, possibly relating to the presence of old channels into the lagoon inshore of the present beach.

(f) Finally, exposed cohesive sediments can often be identified in the troughs between offshore bars through a swimming or diving survey.

(6) At the site in Ghana, subsequent to the initial visual observations of evidence of the presence of underlying cohesive sediments, a series of subsurface investigations was completed to define these conditions. These included augers, boreholes, vibracores and sub-bottom profiling. Use of more detailed subsurface investigations to confirm visual observations and provide more detailed information is discussed in Part III-5-6.

b. Mud shore. Unconsolidated mud coasts are generally the result of more recent deposition of cohesive sediment. Deposition requires quiet or calm hydrodynamic conditions, where large waves are rare. Muddy shore naturally occurs as mud flats and coastal wetlands in protected waters, such as estuaries and other embayments with short fetches.

(1) Mud flat. Generally without vegetation, lying below high water in tidal areas (Figure III-5-7).

(2) Coastal Wetland. Salt marsh in saltwater, stabilized by vegetation, generally above low water in tidal areas, often above mud flats (Figure III-5-8) and mangrove. Marsh vegetation stabilizes the mud bed and provides shelter in which more sediment can deposit.