Environmental and Engineering Geologists Meeting
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The H.E.S.S. Building on Buffalo Speedway

The October 1994 Record Flood, San Jacinto River Drainage Basin, Southeast Texas

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The San Jacinto River drains a Quaternary and Pliocene terrain ranging in elevation from 425 feet to sea level. The river basin forms the homesites for hundreds of HGS members in communities north and east of Houston, Texas. During three days in October, 1994, up to 30 inches of rain fell within the river basin. The river's flood plains were rapidly inundated. Homes and roads were destroyed or badly damaged. Many lives were lost. Up to seven feet of sand, in the form of huge sand waves, was

erosion and the pipeline ruptures that occurred during the flood. Water flowed over the Lake Houston spillway at ten miles per hour and down the 4.5 miles of sinuous river bed towards the Banana Bend area. The volume of water coming down the spillway and entering the river channel was 356,000 cubic feet of water per second. When this wall of water reached the large meanders in the Banana Bend and Rio Villa subdivision areas, the main path of the flood waters left the thalwegs of

flood's path.

A major avulsion at the Rio Villa subdivision isolated the community and ruptured several pipelines. The leaking hydrocarbons floated southward for 2.2 miles to the Whites Lake area near I–10 where they concentrated in an eddy and ignited. The fire subsequently spread north along the plume of floating hydrocarbons to the source at the rupture.

There was not a single pipeline