



The tube sheet is still in good condition



The heads showed good status



The tube bundle was dirty



The shell internal surface was dirty and corroded



The tube bundle during cleaning



corrosion of a tie rod



The baffles and tie rods are corroded



The tube bundle after being cleaned



Photo 9 – Severe corrosion of tube supports and sliding shoe



Photo 10 – Severe corrosion of tube supports and sliding shoe



Photo 11 – Severe corrosion of tube supports and sliding shoe



Photo 12 – Severe corrosion of tie rod

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Photo 13 – Slight discoloration of tubes at the junction area
with the tube supports