

## Liebherr P 994 Pontoon Litronic Excavator Removes Hurricane Debris in USA.



# LIEBHERR

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## Situation

Hurricane Katrina, a Category 3 Hurricane when it made landfall, hurled its way ashore in late August 2005 creating large scale flooding and general destructive havoc on the USA Gulf Coast. Biloxi, Mississippi was especially hard hit with a thirty one ft storm surge and wind gusts up to 125 mph resulting in extraordinary damage all throughout the coastal area. Beachfront hotels and casinos, once crowded with tourists were decimated along with coastal apartment buildings and condominiums. The cities coastal streets and bridges, under siege from high winds and the storm surge did not always survive the power of the storm. Estimates in dollar damage to the gulf coastal region was set at 125 billion US dollars as a result of Hurricane Katrina.



## Assignment Report

An estimated 75,000 homes were destroyed in Hurricane Katrina's landfall at Biloxi, Mississippi, along with a multitude of commercial establishments. The hurricane with associated wind and high storm surge destroyed basic highway, street and bridge infrastructure. Just in clean-up activities, the city faced a huge problem before reconstruction work could ever begin. The US 90 bridge, a four lane, 2 mile long crossing between Bay St. Louis and Pass Christian County was built in 1951 and destroyed by Hurricane Katrina in 2005. Due to the storm surge in this area, reported to be as high as 31 ft, the roadway decking and rails of the bridge were ripped off and dropped into the water below. A new bridge could not be erected where the old one collapsed until huge amounts of concrete roadway decking and supporting rebar were removed. For a large part this was a demolition assignment under water and specialized dredging equipment was needed to complete the task. Any pontoon excavator selected to complete the job needed to have the power and inherent strength to complete an assignment of this magnitude.







## Solution

In order to facilitate the removal of the debris of the old four lane, two mile long, US 90 Bay St. Louis Bridge, a joint venture was formed between Jay Cashman, Inc. and Testa Corp, JV. for the removal of the old bridge residue. The general contractor for the bridge project is Granite/Archer Western, JV. The P 994 Liebherr pedestal mounted excavator provided by Sterling Equipment, a division of Jay Cashman Inc., Boston, MA, was selected to remove the huge slabs of concrete decking and railings of the old bridge from the water to clear the area for the new bridge construction.

The P 994 with elastic mount on a 165 ft long and 50 ft wide pontoon barge, is powered with a Cummins KTTA38-C 1350, 12 cylinder diesel engine with 1256 HP/937 kW. The P 994 excavator operated 24 hours a day, 6 days a week and was equipped with a 52 ft, 6 in gooseneck boom, a 26 ft, 3 in stick and a specially designed grapple attachment to handle the heavy

concrete and rebar during the dredging process. The excavator's digging force was 87,750 lb, a breakout force of 122,625 lb, with a maximum digging depth of 63 ft.

The P 994 is equipped with an underwater monitoring instrumentation package for continuous control of digging depth and work. For this particular job a GPS unit was installed to show the exact areas where bridge sections were located underwater in relationship to the P 994 excavators working location. There were also sensors on the attachment that sent information to an onboard computer showing the operator on a cab monitor the actual working range and digging depth. All excavator functions during dredging were smoothly and precisely controlled via the Liebherr Litronic operating system. Total operating weight of the Liebherr P 994 was 407,800 lb.



## Technical Data

Upper carriage, attachment, resilient mounting  
Total Operating Weight \_\_\_\_\_ 407,800 lb  
Engine \_\_\_\_\_ Cummins KTTA38-C 1350  
12 Cylinder Diesel Engine  
1256 HP/937 kW @ 2100 RPM

## Attachment

Gooseneck boom \_\_\_\_\_ 52 ft, 6 in  
Stick \_\_\_\_\_ 26 ft, 3 in  
Special Grapple Attachment  
Max Digging Force \_\_\_\_\_ 87,750 lb  
Max. Breakout Force \_\_\_\_\_ 122,625 lb  
Max Digging Depth \_\_\_\_\_ 63 ft



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