

Ruptured Weld Cause Of Pipeline Explosion

2010-03-15 09:25:08 by ginamc



In November 2007 the residents of a Mississippi mobile home park were unaware that a buried pipeline that passed close to their homes had ruptured and began to leak its contents of liquid propane, forming a deadly gas cloud.

Before all the residents could be evacuated the gas exploded killing 63 year old Maddie Mitchell, and her 20 year old granddaughter, Naquandra.



The subsequent fire destroyed homes and burnt woodland.

An investigation was carried out on the 46-year old, 12 inch pipeline by the National Transportation Safety Board.

After extensive metallurgical tests they concluded that the probable cause of the leak was the failure of a weld that caused the pipe to fracture along the longitudinal seam weld.

The pipe contained multiple fracture features that indicate that a crack initiated in the longitudinal seam weld; however, finite element simulations raise the possibility that a crack could also have initiated in the upstream girth weld.

There was no evidence of corrosion and sections of the pipeline had been inspected multiple times since 1998, using in-line inspection tools. The ruptured pipe was manufactured in 1961 using the low- frequency electric resistance welding (ERW) process for longitudinal seam welds.

Weblinks:

Full NTSB Accident Report - [nts.gov/Publictn/2009/PAR0901.pdf](http://www.nts.gov/Publictn/2009/PAR0901.pdf)

Full Materials Laboratory Report - www.nts.gov/Dockets/PipeLine/DCA08MP001/393374.pdf

<http://www.rovworld.com/modules.php?name=News&file=article&sid=4060>