NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594

April 18, 2001

MATERIALS LABORATORY FACTUAL REPORT Report No. 01-22

A. ACCIDENT

Place	:	Bellingham, Washington
Date	:	June 10, 1999
Vehicle	:	Olympic Pipe Line Company, 16-inch diameter gasoline pipeline
NTSB No.	:	DCA99-M-P008
Investigator	:	Allan Beshore

B. COMPONENTS EXAMINED

- A sample of imported backfill that surrounded a 24-inch diameter water main line that crossed above the 16-inch diameter gasoline pipe south of the rupture.
- A sample of concrete labeled “24-inch Main Thrust Block” that was removed from a thrust block poured on the 24-inch water line tee installed near the rupture.
- A sample of concrete labeled “OPL Over Pour”, that was removed from a chunk of concreter found above the rupture.
- Materials, labeled “F”,“H”, “I”, and “J”, found within and bonded to the gouges in the 16-inch diameter gasoline pipe, and a soil sample labeled “E”. The letter designation for each sample correspond to the letter designation of the gouge marks in the pipe. The identification marks were established in NTSB Materials Laboratory Factual Report No 00-157. These samples were removed from the gasoline pipe during metallurgical examination of the pipe in Washington, D.C.

C. DETAILS OF THE EXAMINATION

Samples of material, labeled “F”, “H”, “I”,“J”, and “E”, were removed from several gouge marks in the 16-inch diameter gasoline pipe. These samples were analyzed at the Building Materials Division of the National Institute of Standards and Technology (NIST) to determine the presence of Portland cement. The results of the analysis were compared to reference samples of concrete and backfill that were removed at the accident site by Safety Board investigators (see figures 1 through 3). NIST published the results of the analysis in report “NISTIR 6737”. A copy of the NIST report is attached to this report. All work performed at NIST was directly supervised by a staff member of the Safety Board Materials Laboratory.

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Senior Metallurgist

ImageNo:101A0082, Project No:A00137

Figure 1. View of a concrete sample identified as "24-inch Main Thrust block".

ImageNo: 101A0084, Project No:A00137

Figure 2. View of a concrete sample identified as "OPL Over pour".

ImageNo:101A0081, Project No:A00137

Figure 3. View of a sample identified as "Backfill Sampling".