

Windy day

Jim Becker, a junior management major and resident adviser in Puryear hall, picks up copies of

The Battalion that were being blown around on the grass next to the building Monday.

## Texas researchers look for blood substitution

United Press International
ASHINGTON — There is no substitute for real human d. but Texas researchers ve reported progress on a apporary replacement made cattle blood which could be on in emergency surgery or the battlefield.

Researchers reported they et the product in laboratory bits and found it carried oxen to tissues almost as well as al blood, without causing an munological reaction. It reains to be seen, however, how he product will perform in

This may be a good substie for blood," said Dr. Mario ola, professor of surgery at exas Tech University and an thor of the study, published in gery, Gynecology and Ob-

The idea behind blood substites is to find a fluid that can rry oxygen to tissues and reenish lost volume in cases here real blood is unavailable, hether for supply reasons or

ormed, blood supplies arrive or ransport off a battlefield is rranged. They are not in-ended to be permanent blood be rejected, he said, causing

substitutes, nor would they eliminate the need for blood dona-

Scientists have been pursuing two avenues toward such a fluid: "artificial" blood and hemoglobin solutions.

Fluosol, manufactured by the Green Cross company of Japan, is being investigated at several centers nationwide. The oxygen-carrying substance achieved good results in early

Hemoglobin compounds are made from human hemoglobin, the part of the red blood cell which carries oxyegen, or anim-

al hemoglobin. The problem with hemoglobin compounds has been purity. The team from Texas Tech and West Texas State University used a special filtration process to purify hemoglobin from the blood of Hereford cattle, Feola

Feola said a bovine hemoglobin molecule is similar to a hu-Such fluids would keep the man one, so the compound may not cause any immunological problems provided it is administrations, until surgery can be perman one, so the compound may stead of used as a long-term lifesustainer.

hemorrhaging and other prob-

The advantage to cattle blood is that it is more readily available than human blood, the surgeon

We chose bovine because hu-An artificial compound called man blood is in short supply, and it doesn't seem to make sense to me to use human blood to make a substitute for human blood," he said.

He estimated about a year of animal testing remained before the compound could be tried out in humans.

The Army has been investigating hemoglobin compounds made from human blood for some time. Dr. Robert Bolin, chief of the blood research division at the Letterman Army Institute of Research in San Francisco, said human trials won't be considered for three to five

Bolin said the main snag in research so far has been that the product stays in a test animal's bloodstream only about five hours before it is cleared out by the kidneys.

The Letterman team is trying to modify the product by linking the small hemoglobin molecules together, which the Texas team also did, making them harder for the kidneys to filter out.

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Train crash near Baytown

## Human error causes wreck

United Press International
BAYTOWN — Human error was blamed Monday for a railroad accident in which the engineer of a moving train slammed into a line of parked rail cars early Saturday, killing four

men.
"We have determined the cause to be the failure of the head end crew (moving car) to take action to stop the train short of the cars that were on the track," said Southern Pacific Transportation Co. spokesman

Tony Aleman.
"There was no indication the brakes were applied," he said. Aleman said the moving train

left Baytown about 4 a.m. Satur-

day. About 5:15 a.m. witnesses said they heard the accident.
Aleman said the train was operating under "yard limit rules," which mandates that a train in the yard must be able to stop within one-half of the distance of the range of vision. For example, if the engineer can see 100 feet ahead, he must be able to stop within 50 feet, Aleman

And, he added, no one is permitted to travel at speeds over 20 mph. Officials initially said the train was moving about 20 mph. Before dawn Saturday, a loco-

train which was waiting to be moved to another location. Four brakemen and firemen, were killed by the accident. A fifth employee was taken to Hermann Hospital in Houston suffering from two broken legs and

an injured arm.

James Wilbert Muchow, 59, the conductor and only surviv-ing witness, still must be interviewed, Aleman said.

The Harris County Medical Examiner's office reported the four men died from injuries suffered in the accident.

moved. The remaining damaged tank car, however, was not blocking the tracks, which are located in a piney forest about three miles from Interstate 10 near the Cedar Bayou Industrial area in Baytown.

Officials from the National Transportation Safety Board, the Texas Railroad Commission, Department of Public Safe-ty and the railroad company are all investigating the accident.

Aleman said it is not uncom-

motive, caboose and 10 tank cars slammed into a parked 41-car tracks for later pickups, but the 27 feet off the tracks. One of the employees on the moving train could have contacted headquar-Southern Pacific employees, including the train's engineer, two ary train would be moved. No communication between the train and officials had been made, Aleman said.

The force of the impact engine.

men who died was in the caboose with Muchow. Two loaded tank cars derailed, a third car's front wheels also derailed and a tank car carrying a low grade jet fuel landed on top of the locomotive, shearing off the back end of the



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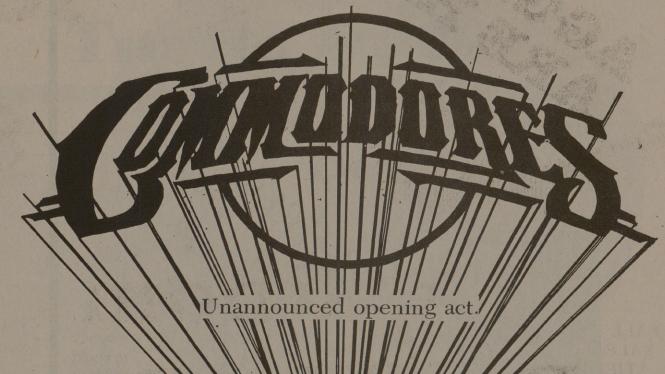
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