July 9, 1998

Nebraska FACE Investigation 98NE011

SUBJECT:

Worker Run Over by Compactor at Landfill

SUMMARY:

A 54-year-old self-employed trash hauler was killed when he was run over by a 55-ton trash compactor at a county landfill. He had dumped a load of trash and was searching for the rakes he and his coworker had used to clear the trash out of the truck. He was at the rear of the load he had just dumped when the incident occurred. One of two compactors operating at the time of the incident ran over him causing fatal injuries. He was pronounced dead at the scene.

The Nebraska Department of Labor investigator concluded that to prevent future similar occurrences employers should:

* Require all personnel (including customers) working outside a vehicle at a landfill to wear bright colored reflective vests/clothing.

* Maintain a 50-foot corridor between equipment/personnel dumping and the trash compactors.

PROGRAM OBJECTIVE:

The goal of the Fatality Assessment and Control Evaluation (FACE) workplace investigation is to prevent work-related deaths or injuries in the future by a study of the working environment,

the worker, the task the worker was performing, the tools the worker was using, and the role of management in controlling how these factors interact.

This report is generated and distributed **solely** for the purpose of providing current, relevant education to employers, their employees and the community on methods to prevent occupational fatalities and injuries.

INTRODUCTION:

On May 4, 1998 at approximately 4:30 p.m., a 54-year-old self-employed trash hauler was killed when he was apparently run over by a 55-ton trash compactor at a landfill. The Nebraska Department of Labor was notified of the fatality by the news media on May 4, 1998. The Nebraska FACE Investigator conducted site visits in conjunction with OSHA on May 6, 1998 and May 14, 1998. Interviews were conducted with management personnel from the landfill, operators of the two trash compactors in operation at the time of the incident and other employees at the landfill. The coworker of the victim refused to speak to OSHA and the Department of Labor FACE Investigator. Information was also obtained from reports provided by the Sheriff's Department. The incident occurred at a public landfill operation but the victim was self-employed.

The victim had been coming to the landfill on a daily basis for approximately the last three years. The landfill management company has been in business for for over 30 years and employs approximately 60,000 people worldwide. Thirteen individuals are employed at the incident location. The landfill where the incident occurred has been in operation for eight and one-half years. This was the first fatality at this location, however the company has had fatalities at other locations. The company has a written safety program and a full-time safety manager.

INVESTIGATION:

On the afternoon of the incident, the victim was unloading some trash at the landfill. He was the driver of a dump truck and had dumped his load. The victim arrived at the landfill at around 3:30 p.m. and finished clearing out his truck at around 4:15 p.m. His coworker told law enforcement personnel, who were on site, that the victim had gone back to the trash they had just dumped to get the rakes they had used to clean out the truck. According to the coworker's report

to law enforcement, while the victim was looking for his rakes, one of the trash compactors pulled forward to push the trash pile to the working face of the landfill (see figure 1). During this time the compactor apparently ran over the victim, causing fatal injuries.

There were some differences in information obtained from interviews with personnel who were on site at the time of the incident. However, after reviewing law enforcement reports, the interviews, and pictures taken immediately after the incident, the following scenario is probable.

Two compactors were operating at the landfill at the time of the incident. Prior to the incident, both compactors were operating East of the victim's truck, compacting trash to the working face of the landfill. The operator of compactor A (see figure 2) moved his compactor from the East side of the victim's truck to the West side of it. Compactor A's track marks (as seen in photos taken after the incident) indicated it traveled forward to the face of the landfill, apparently pushing part of the load the victim had dumped. While pushing this load the victim was apparently run over. After pushing the load forward, compactor A backed up and stopped near the victim's truck. The operator sat there for approximately five minutes, unaware that he had run over anyone. When the victim's coworker noticed what had happened, he began waving his arms and caught the attention of the operator of compactor B. The operator of compactor B saw the victim and radioed the office to call 911 for emergency medical services. Emergency response personnel arrived on the scene within 10 minutes and determined the victim to be deceased.

The compactor involved in the incident was a Caterpillar 836. It had a working back-up alarm and was equipped with a closed-circuit television system. The closed-circuit television system was an after purchase add-on. Visibility out the front of the compactor is good, but rear visibility has major blind spots, thus the television system.

CAUSE OF DEATH:

The cause of death, as stated in the Coroner's Report, was massive crush injuries of the head, face, neck and chest.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: **Require all personnel who enter a landfill to wear reflective/ brightly colored vests.**

Discussion: At the time of the incident the victim was wearing long dark gray-black pants and a green T-shirt. These colors blended in with the colors of the trash. Also, he may have been leaning over at the time he was struck, making it even more difficult to see him. Employees of the landfill are required to wear reflective vests/clothing. Some major companies that use the facility also require their employees to wear reflective and/or brightly colored clothing. One company requires its employees to wear bright orange T-shirts. Individuals, such as the victim, could be issued a brightly colored reflective vest upon entering the landfill and return it upon leaving. At this facility, entering vehicles are required to stop at a building to pay and/or be weighed prior to entering the landfill. Vests could be issued at this time. Had the victim had a bright vest on he would have been more visible and this incident might have been avoided.

Recommendation #2: **Maintain a 50-foot corridor between equipment/personnel dumping and the trash compactors.**

Discussion: The landfill where this incident occurred has a 10-foot spacing policy which requires trucks and compactors to maintain a separation distance of at least 10 feet. Considering the size of the compactors and the working area of the landfill, 10 feet is a very small distance. The blades on the front of the largest compactors in use at this facility are over 16 feet wide. Increasing this spacing policy to 50 feet would greatly enhance the safety of all personnel working at the landfill. This policy information could be communicated to customers through signs at the landfill as well as mailings to all major landfill users.

NOTE: There is current sensor technology which should be considered to improve safety at a landfill. Infrared and ultrasonic sensing units can detect persons or other objects in the path of a vehicle and activate an alarm inside the cab. These and other safety devices are discussed in a **NIOSH ALERT** titled *Preventing Worker Injuries and Deaths From Moving Refuse Collection Vehicles.* Although this alert addresses moving refuse collection vehicles, many of the recommendations would also be applicable to other vehicles at a landfill. A copy of this alert was provided to the incident landfill. Anyone can obtain a free copy of this alert by calling 1-

800-356-4674 and requesting DHHS (NIOSH) Publication No. 97-110.

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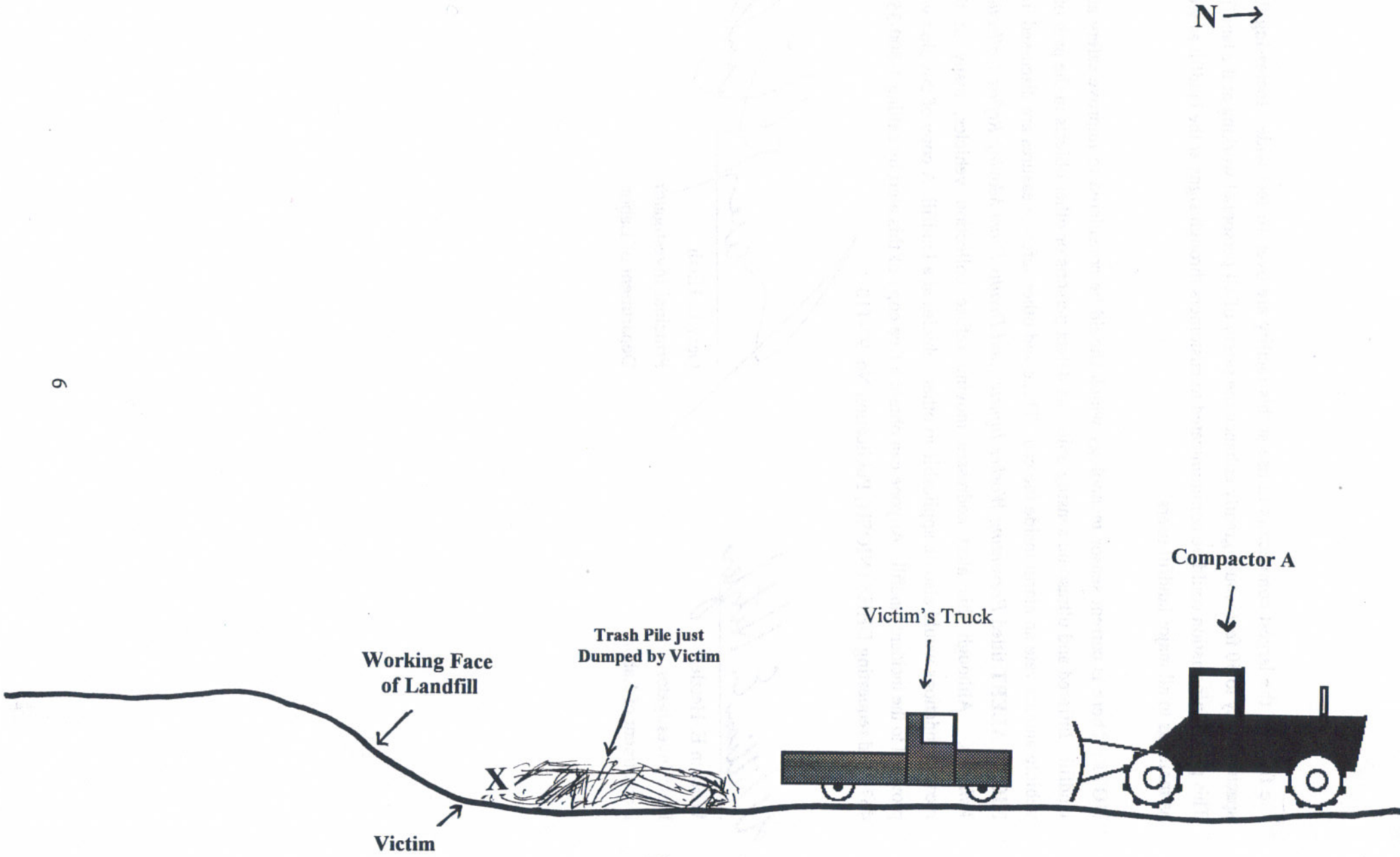

Figure 1
(Not to Scale)

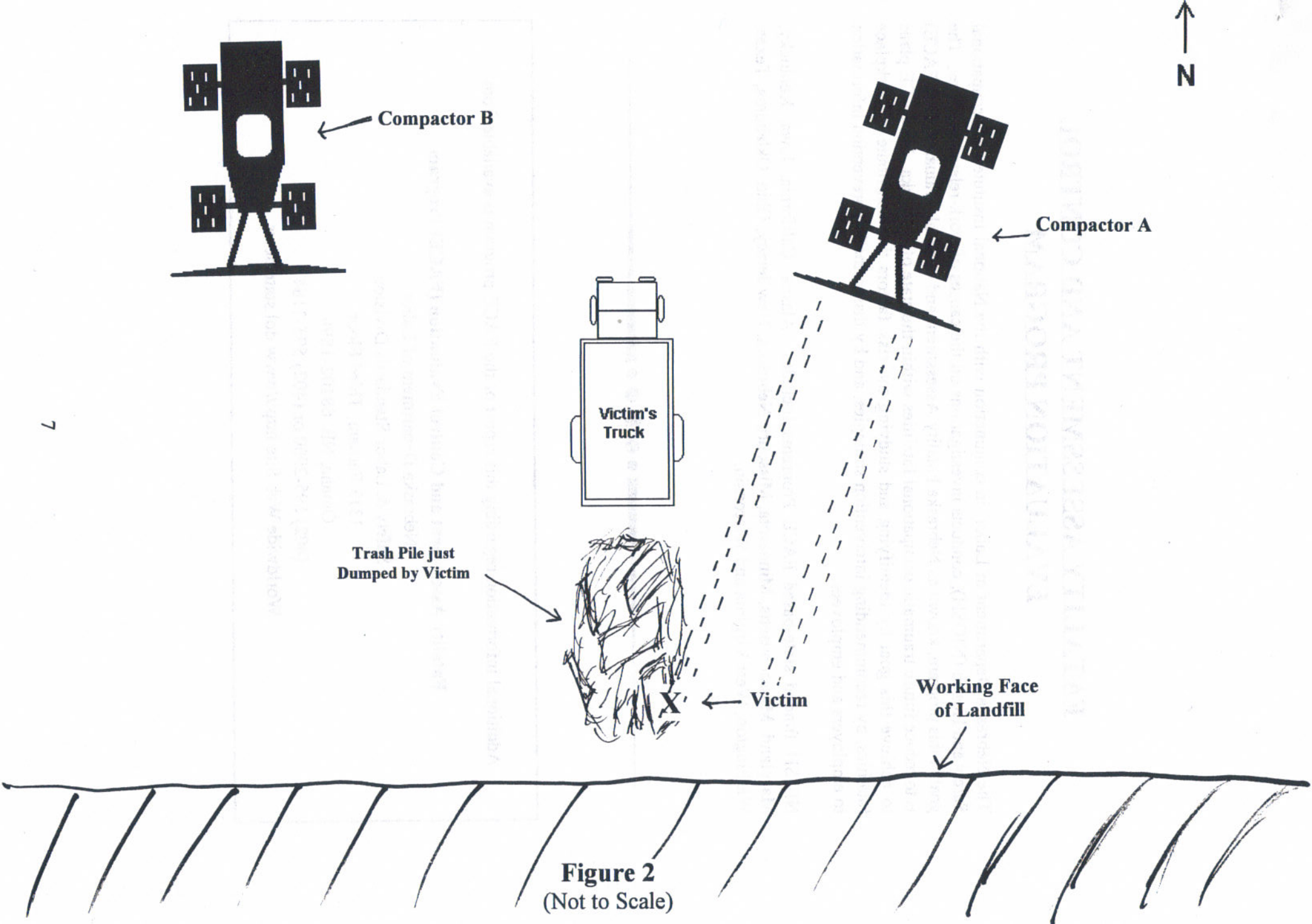

Figure 2
(Not to Scale)