



Figure 12-12 Brine insert tank with bottom spray bar

## F. Pre-wetting Solids

### 1. **The effectiveness and efficiency of solid chemicals can increase when the material is pre-wetted**

- a. The chemical then sticks to the road more readily, and becomes activated by the moisture

### 2. **Solid chemicals can be pre-wet in three ways**

- a. Pre-wetting the stock pile
  - i. Pre-wetting a load of solids just before placing the load in the truck by spraying and mixing the stock pile
- b. Pre-wetting of a single load
  - i. Wetting as it is being loaded
    - a) Spraying a bucket load of dry material as it is being loaded
    - b) Parking the load beneath a sprayer mechanism
    - c) Some other similar means
- c. Pre-wetting by on-board spreader systems

- i. This technique involves applying liquid to the solid material as it is being spread onto the roadway
- ii. Pre-wetting can be accomplished by
  - a) Equipment that is an integral part of the spreader system
  - b) Equipment added to an existing dry material spreader
- iii. Pre-wetting of the material can take place either at the spinner or dry material feed mechanism



Figure 12-13 Tailgate mounted brine tank



Figure 12-14 Tailgate spinner showing pre-wetting material with brine

### 3. Spreading pre-wetted material

- a. Ground speed controls should be used to adjust the material flow rate in relation to vehicle speed
  - i. As speed increases, the flow of material automatically increases to maintain a constant application rate
  - ii. The same is true as the speed decreases: material flow decreases to keep pace
  - iii. In this manner, material is neither wasted nor under-applied
- b. Combination systems
  - i. Systems are now available that provide the benefits of both direct applicators and pre-wetting solids combined in one unit. These systems may be used for either type of application.

## G. Solid Material Application

### 1. Advances

- a. For decades, salt was spread onto roadways by shoveling it onto the road from the bed of a slow moving truck
- b. Fortunately, today we have much more efficient and easier application techniques for solid materials