Salt is often lost during the loading and hauling process. The salt that is lost at these times offers no public safety, it is strictly a $ loss and an environmental loss.
How can we tighten up the loading and hauling operations?
We can improve our salt sheds to allow for indoor loading

http://www.michigan.gov/documents/deq/deq-ess-p2tas-bulksaltbrineguidance_267024_7.pdf

A. Loading areas must be constructed on an impervious pad and should be covered or enclosed within the storage structure to prevent the generation of salt contaminated runoff.

Loading area shown above has many cracks that probably make is permeable to salt runoff. Loading area could be resurfaced to make it waterproof.

Per DEQ email/Andrew Bahrou 2013

The above are not specific requirements They are examples of controls expected to facilitate compliance with the use/indoor storage areas requirement which reads:

324.2005(3) All use areas and indoor storage areas shall be designed, constructed, maintained, and operated to prevent the release of polluting materials through sewers, drains or otherwise directly or indirectly into any public sewer system or to the surface or groundwaters of this state.

Loading tips for less spills:

There are really good loader operators out there! They have many good ideas for reducing the amount of salt lost..

- Don't overfill.
- Put in a scoop then raise box to get salt shifted down to auger.
- Flatten the load.

Photo: Dakota Co.

Photo: Road commission for Oakland County

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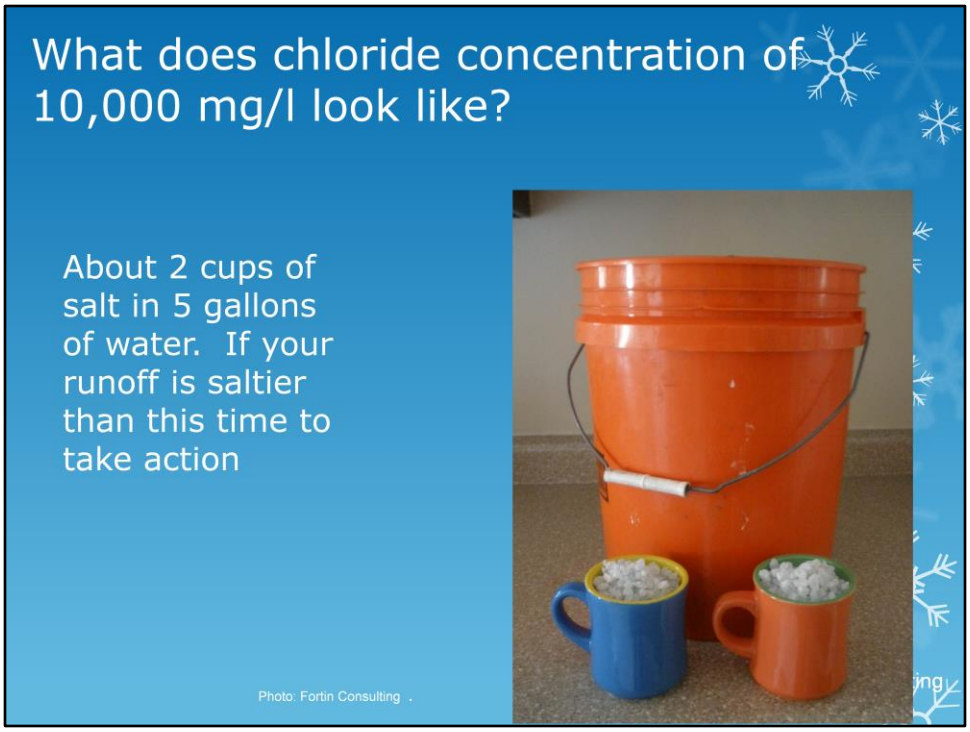
fSalt contaminated storm water (hereafter referred to as brine) from the loading and unloading areas and salt and sand-salt storage areas can be managed in accordance with one of the following options. Storm water in contact with salt resulting in a chloride concentration of 10,000 mg/l or greater must be collected for use or proper disposal.

A. The preferred option is to collect and use the brine as a road dust control agent or pre-wetting ice control agent. Meet the industry and/or MDOT recommendations regarding usage concentration and application rates for using brine or for pre-wetting sand or roads. It is recommended that if brine is used as a dust control agent, it is used only as make-up water on commercial products. This is the preferred management option.



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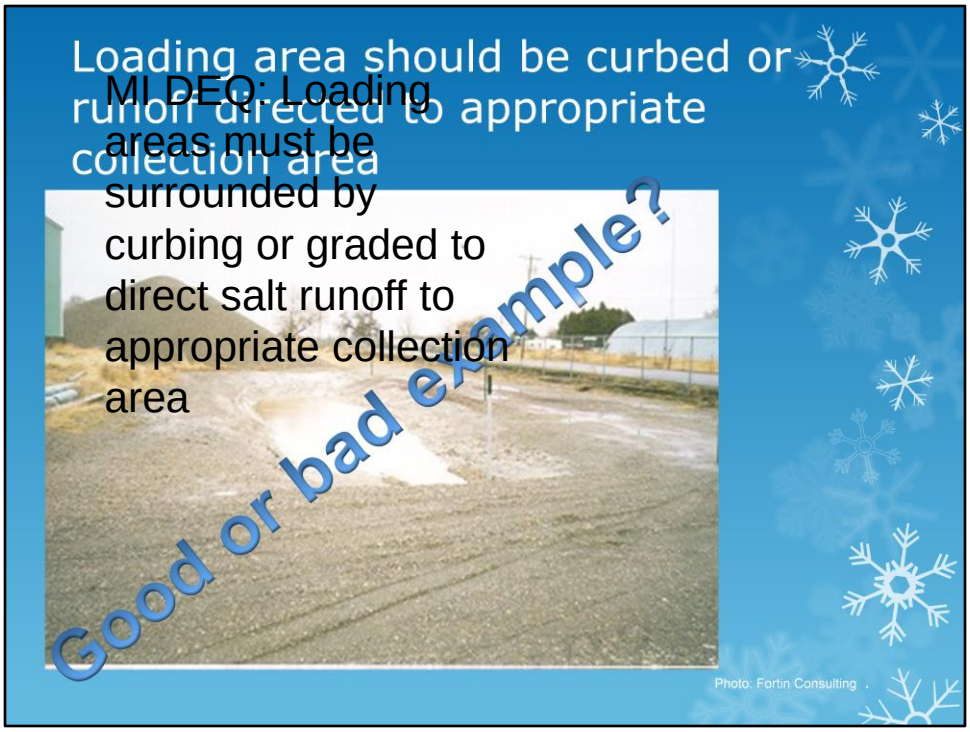

http://www.michigan.gov/documents/deq/deq-ess-p2tas-bulksaltbrineguidance_267024_7.pdf
B. Loading areas must be surrounded by curbing or graded to direct salt contaminated runoff to an appropriate collection area (as described under Storm Water Collection and Disposal in section VI), and the drainage ways should be scraped clean of all salt and sand-salt mixture after trucks are loaded and dispatched. The collected salt or sand-salt should be used or returned to the proper storage area.

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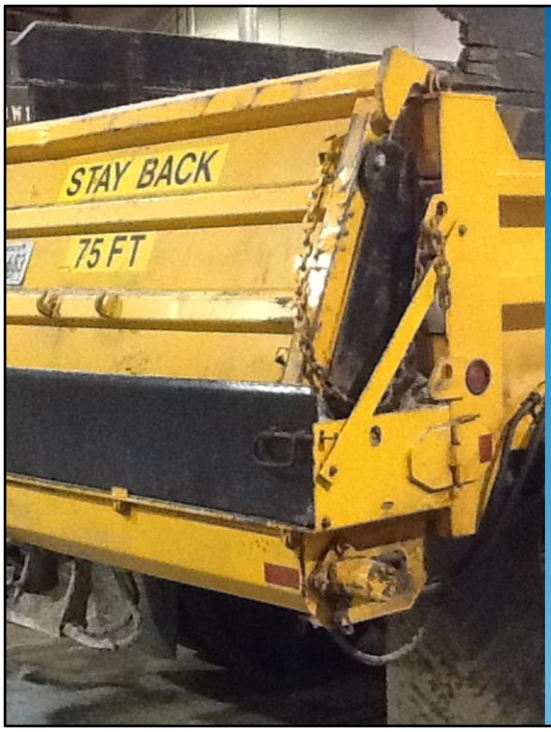
This is a bad example. Need lined collection area.

This is a good discussion slide. The audience will have many ideas as to what has happened. It is likely most everyone will have experienced this or something similar.



Install spill shields and get them installed before first salting event

Photo: Fortin Consulting

Most organizations us the dump truck vs the v-box since they are useful for many tasks other than winter maintenance. However the v-box is often more accurate in delivering a constant flow of salt. The dump truck requires the operator to lift the load to shift salt back to the auger. When the box is full it is common for salt to pour out of the truck. Also it is up to theoperator to keep salt in the auger area by manual means. The v box uses gravity to push salt onto a conveyor, the operator does not need to get involved.

Electronic closed loop controllers eliminate accidental salt discharge when vehicles are stopped.

Photo: Michigan DOT

Electronic closed loop controllers adjust gate opening given the speed of the truck to match the target application rate. It makes the job of the operator easier, reduces salt loss and increases accuracy. Most professionals agree that electronic closed loop controllers are a good investment.


Other things we can do to reduce spills
Put plate over discharge hole so salt must be augered not free flowing
Don't over fill the truck
Be prepare to clean up or phone in a spill. One mistake was made, lets not make two. Leadership quality!
Other ideas
Photo: Michigan DOT