



PROCEDURE FOR THE CLEANUP OF A SURFACE BRINE SPILL AT SALT SOLUTION MINING FACILITIES

Procedure #: UICIII-1
(4/11)

Narrative:

Brine spills or accidental brine releases to the soil can result in contamination of the soil, surface waters, and the groundwater. Brine can destroy the vegetative cover and contribute to soil erosion. The leaching of salts precipitated in the soil from brine may result in groundwater contamination. Brine contamination can increase the sediment load in surface waters and degrade the water quality. Aquatic life in surface waters may also be impacted. Prompt clean-up response by the responsible party will lessen the impact to public health, safety, and the environment.

Procedure:

1. Report brine spills to KDHE within two (2) hours of discovery. KDHE regulation K.A.R. 28-48-2 requires spills to be reported to KDHE's Bureau of Environmental Remediation (BER) at 785.296.1679.
2. Locate the source and stop the leak.
3. Construct a berm, dike, or other containment structure to contain flow of lost fluid.
4. Immediately begin recovery of all lost fluid and dispose or handle in a manner approved by KDHE.
5. Check depth of brine penetration in the soil. Note if the spill area has previously been impacted by brine contamination.
 - For spills in locations that appear to have been previously impacted by brine spills, contact KDHE BOW for advice on cleanup levels to be achieved for the new spill.
6. Clean up or remediate impacted soil. Clean up methods include:
 - Flushing the impacted area with fresh water or KDHE approved liquid. Begin flushing at the up-gradient boundary of the impacted area. The flushing water must be recovered in a manner approved by KDHE. Disposal of the flushing water collected in the containment area must be approved by KDHE. Tilling the soil to the depth of spill penetration may be beneficial if the soils in the impacted area dry out before the initial flushing can be completed. Continue flushing with water until the chloride concentration in the flush water is equal to or less than 400 ppm (or to a level approved by KDHE if natural background chloride is greater than 400 ppm).

- Excavation and disposal of impacted soils. Disposal of impacted soils must be approved by BOW and authorized by the Bureau of Waste Management (BWM). Replace impacted soil with uncontaminated soil. Soils containing less than 1000 ppm chloride do not require further remediation.
 - Other methods as approved by KDHE.
7. Collect soil and/or water samples for chloride analysis to verify that the threat of pollution has been eliminated. The sample analyses must be done by a laboratory certified by KDHE. The KDHE may split samples with the responsible party.
 8. Notify KDHE if the chloride concentration in the flush water remains above 400 ppm, or if soil chloride concentrations below 1,000 ppm cannot be achieved. In such cases the site may be referred to BER for further cleanup action.

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