

Management of drilling wastewater

An update from the Minnesota Pollution Control Agency

Most drilling methods generate drill cuttings, drilling mud, water, or some combination thereof. These drilling byproducts may contain sediment, silt, bentonite clay and small rock pieces. Discharging these wastes containing suspended solids into lakes, river and wetlands can increase water turbidity, temperature, and nutrient levels; and it can also decrease the presence of dissolved oxygen. These impacts can negatively affect aquatic life, and the use and enjoyment of Minnesota's water bodies. To protect the health and ecosystems of water resources, the Minnesota Pollution Control Agency (MPCA) does not authorize the discharge of untreated drilling wastewater into surface waters. Minn. R. 7050.0210, subp. 2 and 13 prohibit discharges into water bodies that may cause nuisance conditions and pollution. Due to high levels of total suspended solids in drilling wastewater, discharging it untreated into surface waters will cause both nuisance conditions and pollution.

The MPCA recommends that drilling contractors adhere to the following steps to manage drilling wastes:

1. To protect water bodies in rural locations, drillers should install temporary Best Management Practices (BMPs) at drill sites to collect and slow down the wastewater's flow. This allows the sediments laden in the wastewater to settle out prior to entering waterways. BMPs can include earthen berms, hay bales; sandbags, sediment filter bags (as described in the February 2003 issue of the Water Well Journal), earthen depressions, storage tanks, or lined dumpsters. BMP selection will depend upon the drilling site's proximity to a water body and available space. Wastewater retention time will vary based upon the total suspended solids concentration; retention time can be increased by installing walls or barriers, which create a maze-like path for the water to flow through the BMP. Once sediments have settled out, wastewater can be discharged to the ground; solids must be stabilized on site or removed and properly disposed of in accordance with Minnesota rules.
2. At drilling locations in urban settings parking lots, roads, and sidewalks will prevent the flow of wastewater from slowing down and sediments from settling out. Therefore, wastewater from drilling activities should always be contained onsite. Water contaminated with sediment and drill cuttings should be pumped into a storage tank immediately as it surfaces. The fluid should be contained and kept in drums, tanks, or lined dumpsters to prevent it from running offsite into roadways and storm sewers. Storm sewers need to be protected because they discharge into surface waters without treatment. To prevent discharging untreated wastewater into storm sewers, sandbags or berms should barricade the storm sewer catch basins directly downhill from and in close proximity to the drilling site; catch basin filter baskets should be installed to capture sediment. As an added preventative measure, sandbags or berms should also be placed around the drill site, as they can help contain and direct a spill if the need arises. When drilling wastewater is adequately treated and solids are removed and contained on the drill site, the clean water can be disposed of through the storm sewer after city officials have been notified. If liquids are to be managed by a Wastewater Treatment Facility, it is the responsibility of the party that generated the wastewater to contact the authorized operator and obtain permission for disposal through the sanitary sewer. Captured solids should be properly disposed of in accordance with Minnesota rules.

3. The MPCA recommends that drillers prepare spill kits, and create a “Waste Disposal Plan” (WDP) and “Spill Prevention – and Response Plan” (SPRP) for both urban and rural drill site locations. These plans will help drillers prepare in advance, and, in turn, can prevent untreated discharges to surface waters from occurring. However, should a spill or untreated discharge to a surface water occur, the MPCA must be immediately notified in accordance with Minn. Stat. § 115.061. The statute requires the responsible party to recover the discharge or spill immediately and take

Untreated Minnesota well drilling wastewater discharge causing nuisance conditions and pollution.



action to minimize or abate pollution as soon as possible. Failure to comply with Minn. Stat. § 115.061 and Minn. R. pt. 7050.0210 can result in an enforcement action from the MPCA that may include a monetary penalty and corrective actions. **Spills and discharges to surface waters should be immediately reported to the Minnesota Duty Officer by calling 651-649-5451 or 800-422-0798.** The duty officer will record all pertinent information and then will notify the appropriate state agencies with jurisdiction.