Vertical Injection Wells

• Two major types
  – Large diameter wells
  – Small diameter wells
• Many of the early leachate recirculation attempts used large diameter wells
• Most new designs use small diameter wells
Large Diameter Vertical Leachate Injection Well
Potential Disadvantage of Vertical Wells

- The greatest hydraulic pressure will be at the bottom of the well.
- This might result in more leachate distribution on the bottom of the landfill.
Vertical Injection Cluster Wells

Use multiple small diameter wells.

Since more wells are needed, installation must not be cost prohibitive.
Installation of Small Diameter Recirculation Wells: Direct Push Technology
Installation of Small Diameter Recirculation Wells: Open Flight Auger
Comments on Moisture Distribution

• Hydraulic conductivity of compacted MSW is relatively low (especially in the vertical direction).

• Compacted MSW is anisotropic with respect to hydraulic conductivity.

• Channeling will occur.

• For subsurface applications, some of the waste will be at or near saturation for part of the time. Conditions will be above field capacity.
McCreanor and Reinhart