

## SOUTH DAKOTA'S PUBLIC HEALTH MOBILE LABORATORY



- ❖ Trailer is 53 feet long with laboratory itself 35 feet long.
- ❖ Completely designed and built within South Dakota.
  - Layout by Public Laboratory staff.
  - Shop drawings/blueprints by Buildings and Grounds
  - Mechanical specifications by Office of State Engineer
  - Construction by staff & inmates of Mike Durfee State Prison
- ❖ Construction cost - approximately \$500,000
- ❖ Laboratory fully self-contained.
  - Can be shore powered or powered with the generator.
  - On-board sterilization for laboratory waste.
  - 2 bio-safety cabinets; also used in chemical terrorism testing.
  - Glove box for hazardous, unknown material.
  - On board heat, propane, water, grey water, storage.
  - On-board de-contamination system.
- ❖ True Bio-Safety Level 3 laboratory\*:
  - Single pass air - 12 exchanges an hour
  - Negative pressure relative to ambient air
  - Seamless floor, walls and ceiling.
  - Double door entry.
  - Redundant exhaust fans for safety
- ❖ On-board equipment includes - 70° freezer, incubators, microscopes, state-of-the art laboratory equipment for culturing bacteria & performing molecular techniques.
- ❖ Communication capabilities include telephone, digital radio, email, connection to DDN system.
- ❖ Used in disaster response (manmade & natural), training for other labs in state, water testing at Sturgis Rally, flood response, disease outbreaks (WNV, SARS, etc.).

\* BSL3 laboratories contain layers of protection to contain infectious agents like anthrax; high mechanical & engineering standards, fairly easily decontaminated, restricted access, extraordinary safety features.