

Ground Water Quality Program

- Ground Water Protection
- Spills Cleanup

Duties

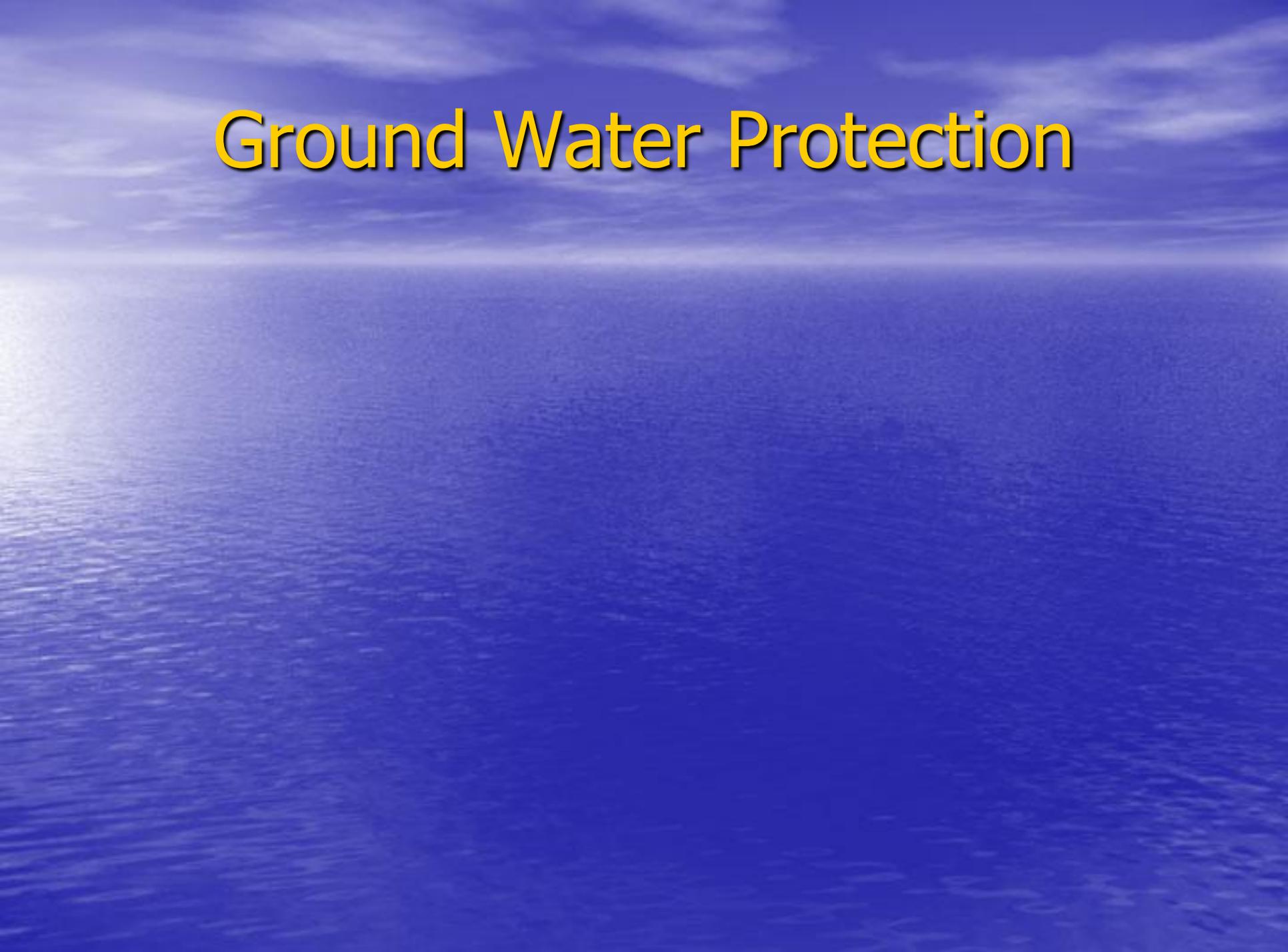
- Protect drinking water supplies
- Regulate ground water discharges
- Regulate Tanks
- Spills cleanup
- Superfund sites
- Assist industry to report hazardous materials
- Coordinate DENR's emergency response

Staff

19 Engineers, Scientists, and Hydrologists

- 17 in Pierre
- 1 in Sioux Falls
- 1 in Rapid City

Ground Water Protection

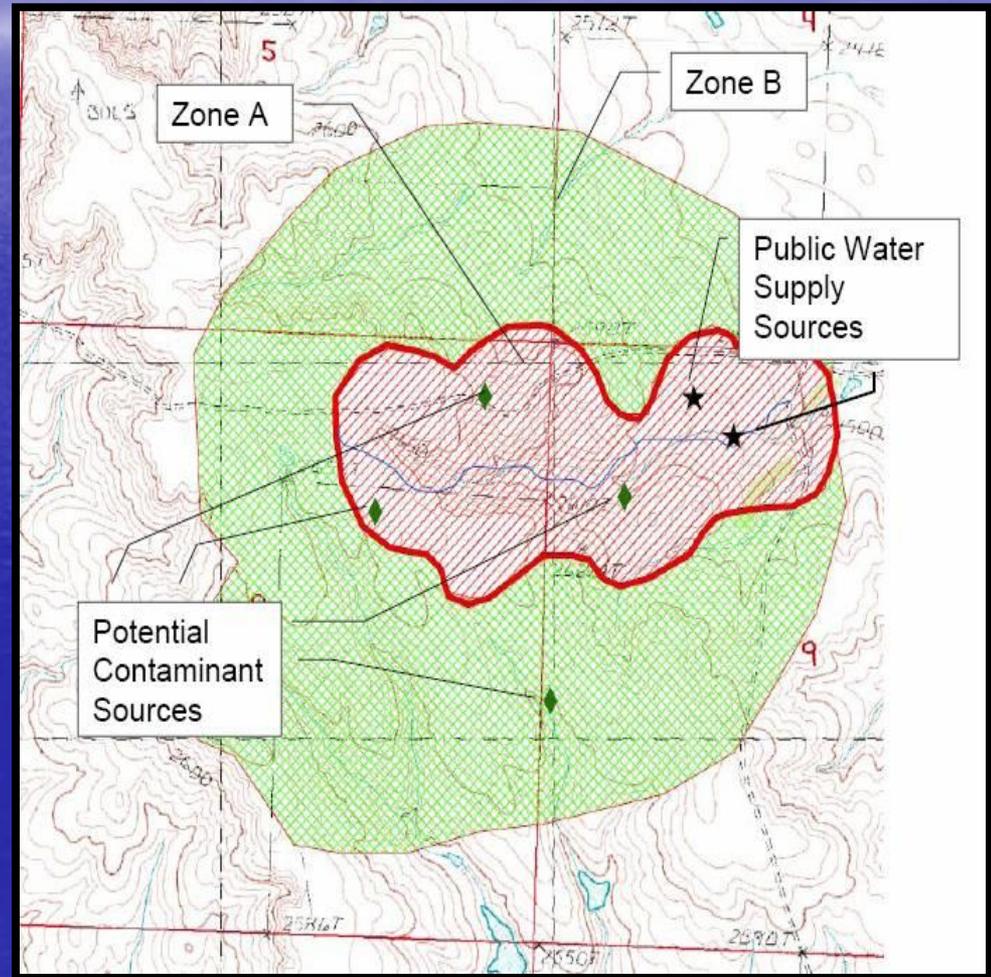


Ground Water Quality Standards

State standards set to protect
aquifers for drinking water
beneficial use

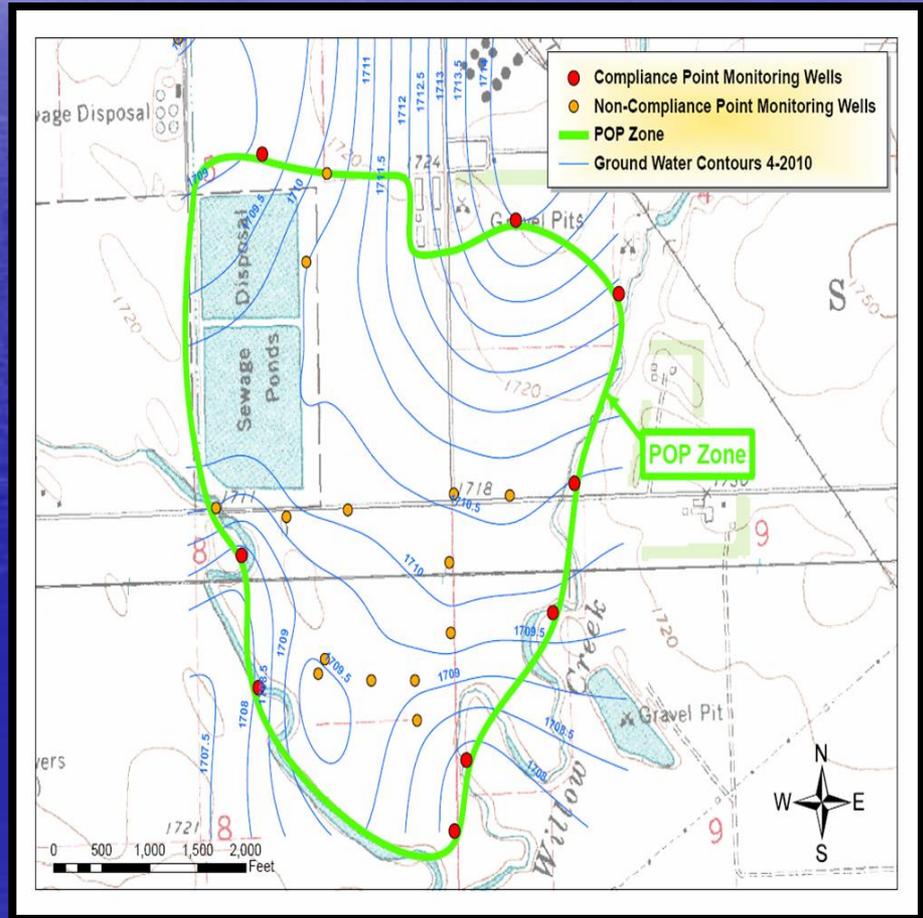
Wellhead/Source Water Protection

- Delineate area water is drawn into a well or intake
- Locate potential pollution sources
- Voluntary – Local governments decide to establish wellhead protection areas and ordinances



Ground Water Discharge Permits

- Facilities designed to discharge to ground water
- Limited degradation within a restricted area
- Must meet ground water quality standards
- Monitoring and inspections

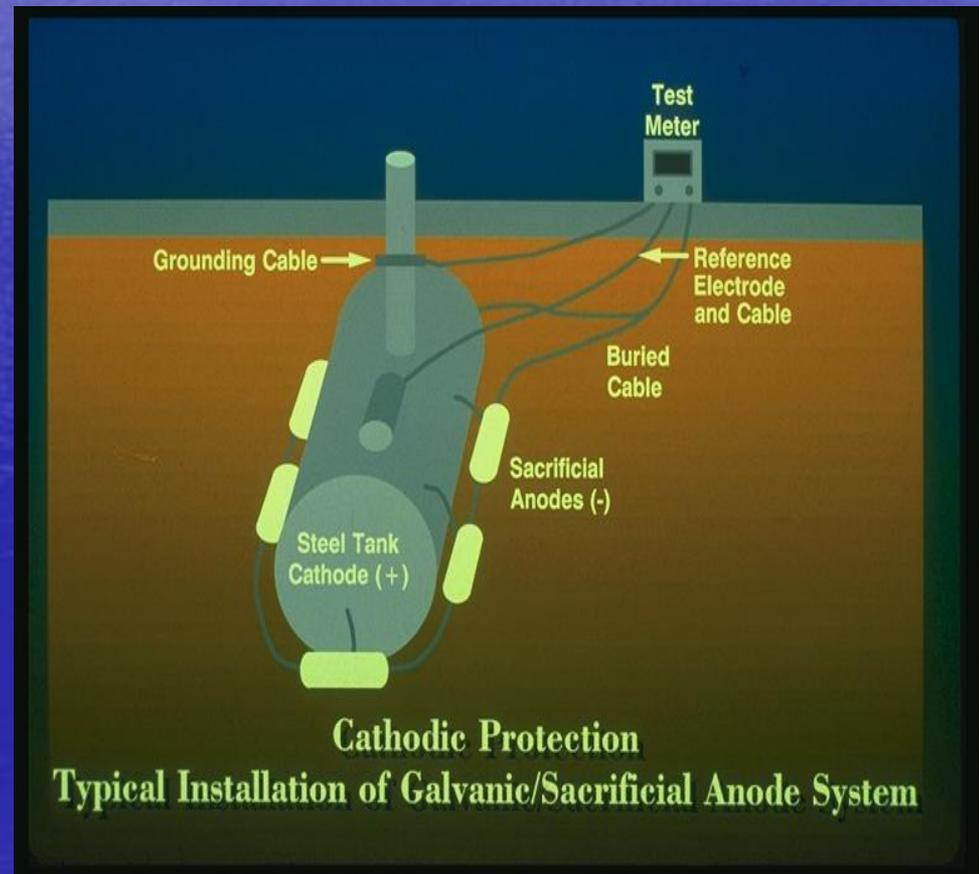


Underground Injection Control Permits

- Class I wells – radioactive waste – banned
- Class II wells – oil recovery enhancement
- Class III wells – injection to mine
- Class IV wells – radioactive waste – banned
- Class V wells – all other disposal wells
- Class VI wells – draft federal carbon disposal

Underground Storage Tanks

- EPA delegated program
- Tank registration
- Plans & Specifications review
- Inspections
- Education Program – new federal requirement



Aboveground Storage Tanks

- State Program
- Tank Registration
- Plans & Specifications Review
- Inspections



SARA Title III

Community Right to Know Program

- Establishes the public's right to be informed of chemical hazards
- Facilities report storage of hazardous and bulk chemical, chemical spills, emissions, permitted discharges, waste treatment, and transfers



Keystone and Keystone XL Pipelines

- Keystone Pipeline
 - 591,000 bpd
 - Crosses 220 miles
 - Now operational
- Keystone XL Pipeline
 - 900,000 bpd
 - Crosses 313 miles
 - PUC issued permit
 - Federal permit pending
 - 2012 completion target



TransCanada Emergency Response Plan

- Leak Detection
- Remote Shutdown
- South Dakota Emergency Response Resources
- National Emergency Response Resources

TransCanada Keystone Worst Case Discharge in South Dakota

- TransCanada developed a worst case discharge scenario as part of its Emergency Response Plan
- A worst case discharge is 27,329 barrels (1,147,818 gallons) near the bank of the Missouri River
- TransCanada has a response trailer, response equipment, boats, and a command post in Yankton
- TransCanada is planning a full-scale exercise, to be held in September

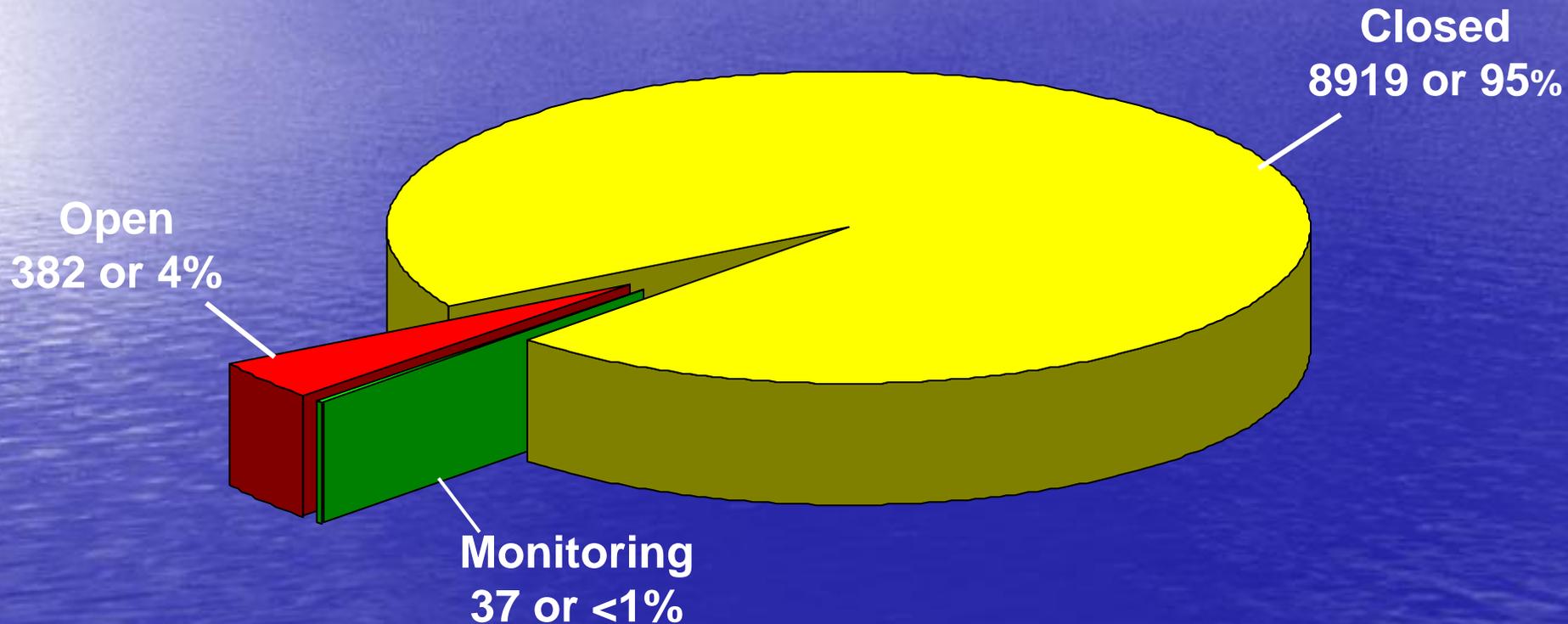
Spills Cleanup



Spills

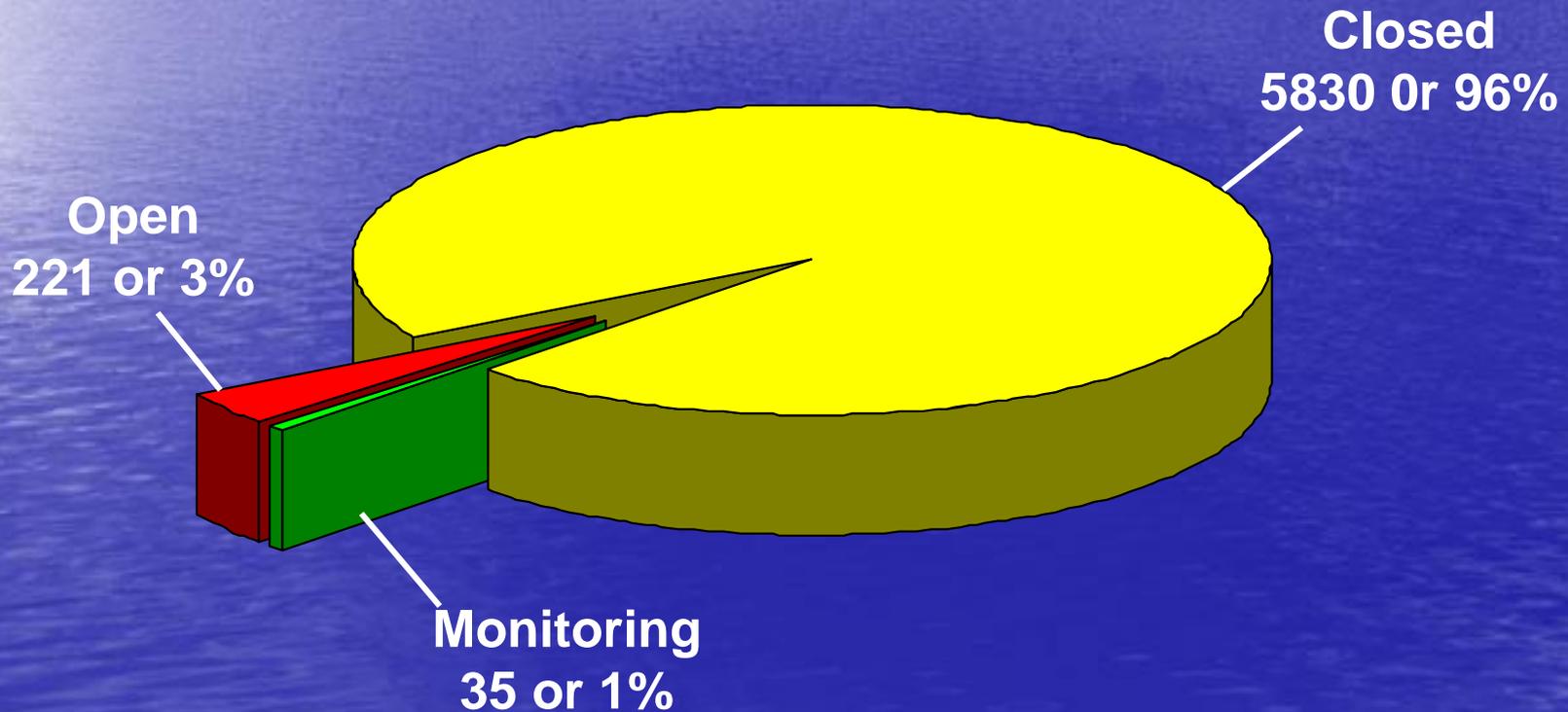
- Person causing a spill is responsible for cleanup
- DENR Notification – 24/7
- Initial Spill Response – containment and cleanup
- Assessment
- Cleanup/Remediation
- Monitoring
- Closure

Status of 9338 Reported Spills/Releases Since 1972



As of July 6, 2010

Status of 6086 Reported Petroleum Spills/Releases Since 1972



As of July 6, 2010

Petroleum Release Compensation Fund

- Department of Revenue and Regulation
- Funds available for qualified petroleum releases
- After \$10,000 deductible, PRCF pays necessary and reasonable expenses up to \$1,000,000
- DENR and PRCF work closely on eligible cases

Abandoned Underground Storage Tank Program

- 4,172 tanks removed at 3,020 sites
- 871,000 gallons of tank contents removed
- 17,000 cubic yards of contaminated soil removed
- 275 risk assessments & corrective actions completed at sites needing action



Leaking Underground Storage Tank Trust Fund

- The release is an emergency
- The responsible party refuses to clean up
- The responsible party can prove it doesn't have the money to do a cleanup, or
- A responsible party can not be found

American Recovery and Reinvestment Act of 2009

- EPA granted DENR \$1,249,000 Economic Stimulus LUST Trust Funds
- 38 projects approved
- Estimated projects \$1,043,515

Regulated Substance Response Fund

- State Fund
- The release is an emergency
- Responsible party refuses to clean up
- Responsible party doesn't have the money to cleanup, or
- Responsible party can not be found.

Environmental Livestock Cleanup Fund

- State Fund
- Release is an emergency
- Responsible party refuses to clean up
- Responsible party doesn't have the money to cleanup, or
- Responsible party can not be found.

Superfund

- Congress enacted Superfund after hazardous waste releases at places such as Love Canal
- EPA oversees cleanups and DENR assists
- Superfund Sites:
 - Ellsworth Air Force Base – Dept. of Defense
 - Gilt Edge Mine – EPA
- Superfund Actions:
 - Whitewood Creek 5 Year Review – EPA
 - Riley Pass Uranium Mine – Forest Service
 - Formerly Used Defense Sites – Dept. of Defense
 - Removal Actions – EPA

Gilt Edge Mine

- 1999 Brohm Mining Corporation bankrupt leaving 150 million gallons of acid water
- Environment & human health threat
- DENR maintained mine & treated water until EPA took over as Superfund site December 2000



Gilt Edge Mine Cleanup Progress

- Replaced sodium hydroxide water treatment plant with lime based plant
- Capped and revegetated Ruby Dump
- Clean water diversions installed to limit clean water from contacting acid generating soils and rock



Gilt Edge Mine Cleanup Remaining

- Place spent ore from Heap Leach Pad in pits
- Place acid generating fills in pits
- Cap and revegetate pits
- Remove mine buildings
- Upgrade Water Treatment Plant



Ellsworth Air Force Base Superfund

- Solvents and jet fuels in soils and groundwater
- Department of Defense cleanup with EPA and DENR oversight
- Impacted wells off-base replaced by rural water
- Groundwater plumes contained
- Remediation systems removing contamination



South Dakota FUD Sites

- Property formerly owned by Dept. of Defense
- Dept. of Defense responsible for environmental restoration
- 52 South Dakota sites: Air to Ground Gunnery Ranges, Precision Bombing Ranges, Rifle Ranges, Army Air Fields, Maneuver Areas, Radar, Nike and Titan Missile



Black Hills Army Depot



Badlands Bombing Range

Brownfields Program

- Brownfield sites—property to be redeveloped that is or has the potential to be contaminated
- 100% federal funding/over \$5 million spent in South Dakota
- 29 assessments completed
- 18 cleanups completed
- Work done in 16 South Dakota towns

Gary Former School for the Blind

- 34 acre abandoned site.
- Asbestos, petroleum & lead paint
- Dorms, Community Center, Office, & Museum



Phillips To The Falls

- Salvage yard with metal, petroleum and other chemical contamination
- Highly contaminated soils disposed at landfill
- Majority of impacted soil capped – used as a park
- Phillips Avenue is being commercially developed



DENR Emergency Response Participation

- Emergency Operations Center
- Weapons of Mass Destruction
- Anti-Terrorism



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