

SO YOU ARE GOING TO
GET A PERMIT !!



Operating Permits Authority

- ✓ March 18 2008
- ✓ Governor Huntsman signed HB 222
- ✓ Water Quality Board Amendments
- ✓ ... issue construction or operating permits for the installation or modification of treatment works or any parts of *the treatment works...*

Operating Permits Background

- ✓ Most wastewater systems are permitted by one of four programs:
- ✓ Ground Water Quality Protection
- ✓ Underground Injection Control (UIC)
- ✓ Utah Pollutant Discharge Elimination System (UPDES)
- ✓ Permits for a Water Reuse Project
- ✓ This program is for everyone else !!!

Operating Permits Implementation

- ✓ 5 year permit "General Permits"
- ✓ "Individual Permits for land disposal facilities"
- ✓ Multi-year phase in to program
- ✓ Required to apply for a permit by 1/1/10

Operating Permits Implementation

- ✓ Site visits by DEQ
- ✓ Talking to governing boards
- ✓ 1st round of permitting will focus on information gathering

Operating Permit Reporting

- ✓ FLOW !!
 - ✓ Pond Depth
 - ✓ COD
 - ✓ pH
 - ✓ DO
 - ✓ E-coli
 - ✓ Nitrogen
- Everyone

Flow Measurement



Flow Measurement Reporting

Need to measure

Daily Average

Discharged during a 24-hour period

30-Day Average

Arithmetic average of daily averages

Report flow rate in (Gallons per Day) GPD !

Pond Depth Indicator



Pond Depth Indicator



Pond Depth Indicator





Pond Depth Indicator

Why ?

Flow, Pond Depth

Lagoon Liner Basics

- ✓ Liner - Barrier to groundwater
- ✓ Composed of soils - clays, bentonite
- ✓ Composed of synthetics - HDPE, PVC
- ✓ ALL LINERS LEAK !

Lagoon Liner Basics

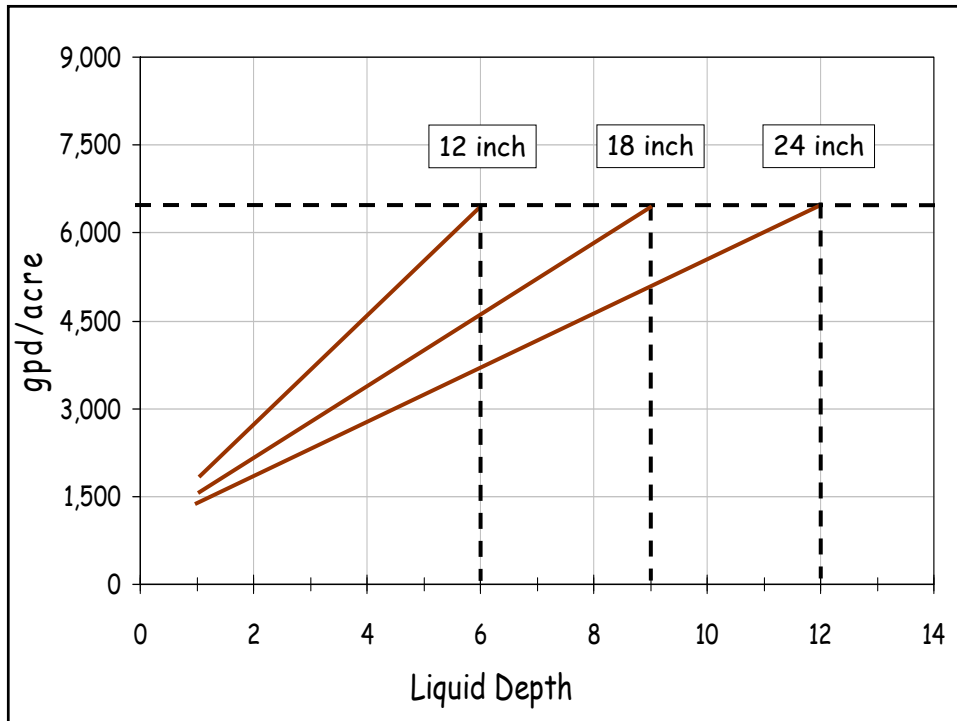
- ✓ Seepage is a function of liner thickness
- ✓ Thicker liner gives lower seepage
- ✓ Seepage is a function of liquid depth
- ✓ Deeper depth gives higher seepage

Utah Liner Requirements

- ✓ It shall not exceed 6,500 gallons per acre per day.
- ✓ Hydraulic conductivity shall not exceed 1.0×10^{-6} centimeters per second.

Clay Liners

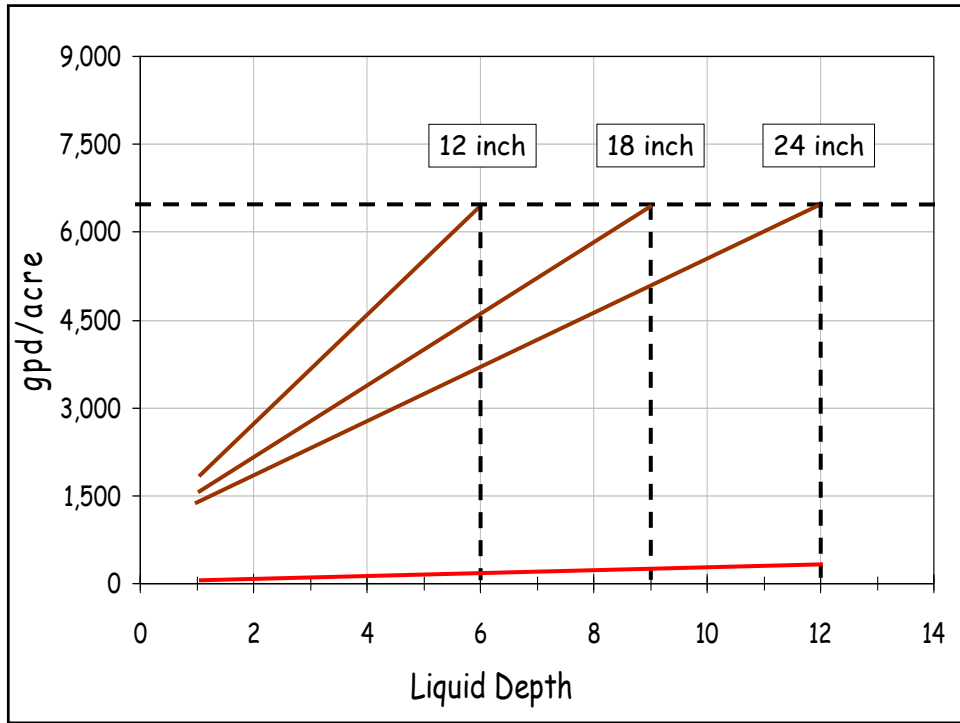
Assume hydraulic conductivity at 1.0×10^{-6} centimeters per second.



Synthetics Liners

Assume hydraulic conductivity at 1.0×10^{-9} centimeters per second.





Clay Liners

Sometimes they work



Clay Liners
Sometimes they don't



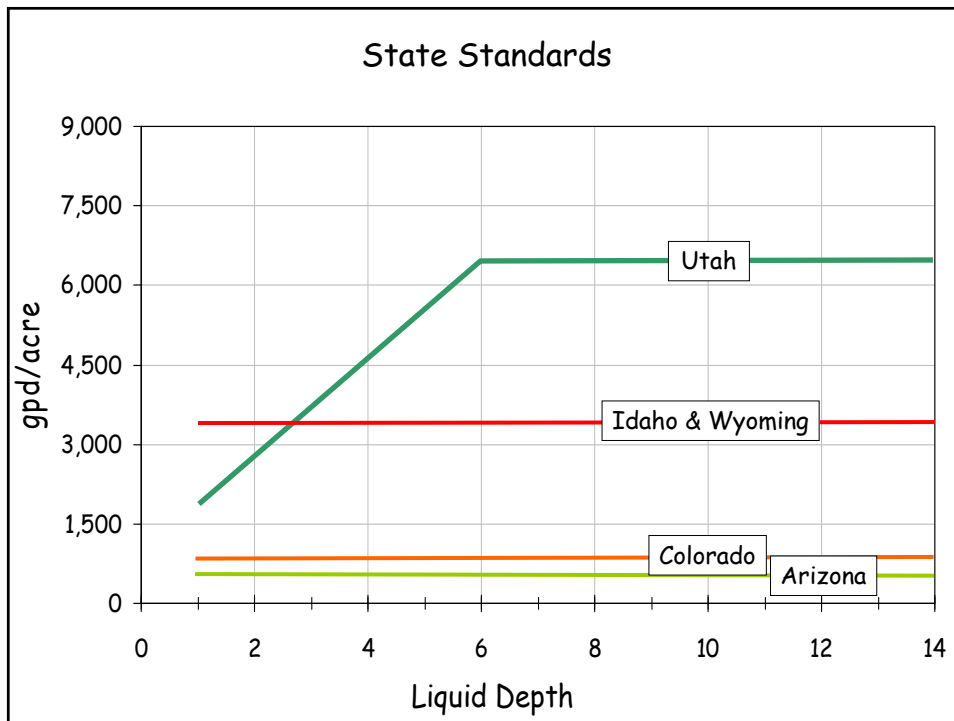
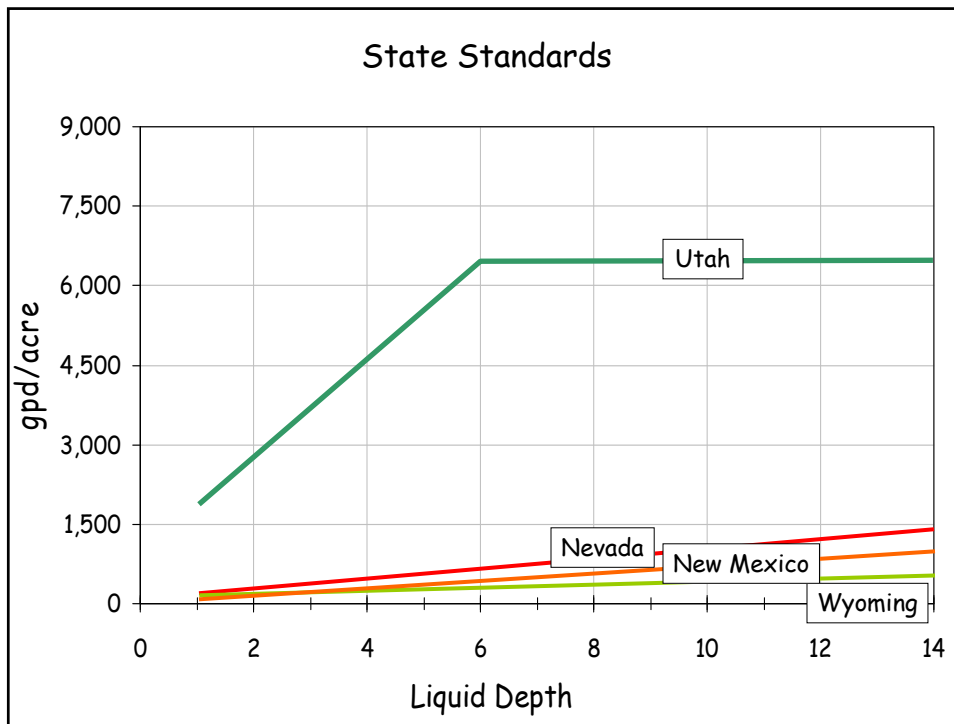
Synthetics Liners

Not perfect either



Neighboring States

Lagoon Liner Requirements





Your Permit Responsibilities

- ✓ Apply for coverage under "general permit" by Dec 31.
- ✓ Record flow and pond depths on MOR.
- ✓ Submit MOR monthly to pkrauth@utah.gov.