Coffin Butte Landfill

Subtitle D Landfill
Second largest landfill in Oregon
Receives waste from half of Polk and Marion Counties, all of Lynn, Benton, Lane, Tillamook, Lincoln
The landfill will be monitored for 30+ years until DEQ closes it
Monitor leachate, air quality, runoff, and methane
Wells- 60-70 around the site

Liners- 2 60mm, 1 40mm, bentonite liner will seal itself, puncture resistant
   HTP liner, earthquake up to 8.0 resistant
   Cost- $750,000-$800,000 an acre to put it in

Landfill- always shifting, built in lifts
   Total acres available for landfill- 100 acres
   Total acres in the area- 700 acres
   Compaction rates of garbage - 1819lb/ square inch
   Garbage is covered with plastic every night to prevent rainwater seepage, rodents, birds
   Can destroy 75 birds a year
   200- 250 loads of garbage are received per day
   It will take 80 years to cover from hill to hill
   In landfill- plastic #1, paper #2 amount of item dumped

Cells- lined with liner and operations layer made of tire chips. The operations layer holds the pipes for methane, leachate removal.
   Multiple cells within a larger cell, all welded together
   8 cells = section 3A = 8 acres
   Cells are built to 300ft high in 40ft lifts

Leachate- 40,000 gal/day
   29,000 gal/day summer
   Hot- 95-110 degrees due to decomposition

Water Treatment Plant-
   $7 million dollar facility
   Raw leachate- out of 10 gallons treated 9.5 are turned into pure H2O
   Is very corrosive
   Use reverse and direct osmosis
   Cost- .10cents a gallon to treat - send to Albany where it costs .03 cents a gallon-
   8 loads a day
   Sludge- left over, put in brick form mixed with potash, back in the landfill
   For every inch of rain/acre 30,000 gal. Of water is diverted off of the landfill
Methane- Landfill is under constant vacuum to remove methane
  Produces enough electricity for 2,000 homes- do not receive any profit from
  If too much methane builds up- have to flare
  Produces 1100ft3/min methane = 2460kw/sec

Rodger - Tester
  Measures the levels of methane, nitrogen, CO2, O2
  Stay above 50% methane - Do not want oxygen
  Rodgers measurements
    57% methane
    0.3% oxygen

Quarry- Pillow basalts
  Basalt- old sea floor
  Use regolith for cover
  Faults in the valley
  Tectonically mangled
  Highwall- cliff of rock at a quarry