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- 700acres
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 H20
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