QUESTIONS AND ANSWERS FOR EDUCATORS

**What is the difference between a landfill and a dump and what makes a safe and efficient landfill?**

Landfills are designed and operated to control potential disease vectors (public health), protect surface and ground water (environmental), control litter (public health and environment), and protect air quality [no open burning as toxins may be released to the air from trash] (public health and environment). A safe and efficient landfill has a subbase liner (cell liner); intermediate and final cover (over the trash); final cover (approximately 4 feet deep or equivalent); leachate (liquid) collection and treatment; litter control; management; inspection programs; safety programs; and methane gas collection/utilization.

**What are the ingredients required for good compost and why do you try to keep yard waste/tree limbs out of the landfill?**

Carbon (yard waste), Nitrogen (Sludge, Manure), Water, Oxygen (Air), and Temperature (110 to 120 degrees F). Carbon compounds decay and cause liquid (leachate) and methane gas to form plus carbon is fuel for fires. In addition, limbs are bulky and take away space from the landfill. By making product usable on site for reclamation and final cover improvements, we can reduce the need for off site products as well as decreasing herbicide, pesticide and irrigation water to maintain vegetative final cover.

**What type of soil is best suited for a landfill and why?**

Fine grained soils with high clay content which have low permeability (doesn’t allow water to “leak” or drain). These soils are common in the Southwest region and make great pottery.

**Why are burn barrels a problem for landfills (and haulers)?**

Hot ashes can cause other surrounding trash to ignite which may cause fires in trucks or on the landfill: this results in hazards to everyone near the fire.

**Why do landfills have to close if the wind speed is 40 miles per hour or more?**

Litter comes from windblown plastic and paper and can go for miles in any direction. In addition, wind can pick up dust and that would violate air quality standards. Because our landfill bales the trash inside a large building which limits windblown litter, we may remain open on windy weekdays as long as we are baling.

**Why do we sample groundwater from the landfill wells at least every 6 months?**

To see if leachate (liquid that seeps through garbage) is leaking from the landfill and contaminating the groundwater.

**What is required to produce energy from a landfill?**

Methane gas production from the decomposition of carbon materials (yard waste,
food, paper) which also uses water and air (oxygen). Traditional landfills produce carbon dioxide in the first few years of burial of material followed by methane, especially when the buried material has lots of green waste from grass, leaves, food, and similar items. We are not producing methane at this time for a variety of reasons. First, the baling process tends to remove a significant portion of any water that is in the trash. Second, the soils we use as cover are clay which means they have low permeability, water tends to sit on the top and be evaporated faster than sinking in the soil. Third, the climate is a desert which means low precipitation. And fourth, we do not have as much green waste from grass and leaves in particular going into the landfill because residents and businesses are composting at home or they are participating in the yard waste diversion at the landfill.

Why is public access controlled at the Montezuma County Landfill?

To control illegal dumping (especially of hazardous wastes); decrease public exposure to hazards, and control unauthorized vehicular traffic.

Why do we put ditches around the landfill to divert rainwater and snowmelt away from the landfill cell?

To keep water from contacting trash thus becoming "leachate", leaking into ground and surface water and thus contaminating the water.

Why is safety a big deal at the landfill?

Landfills are construction sites and have big equipment that can hurt people. Also trash has potential health hazards. Preventing an accident, injury or death is cheaper than paying for repairs or medical bills, or a worse case scenario, a funeral.

Why isn’t the landfill recycling more materials?

Recycling can be costly in labor, equipment, processing, storage, and transportation. Paper products have had a value in the past that have covered costs to collect, process, store and transport the material. Metals are similar in value. Plastics require a large quantity of a specific type and usually have such a low value that it costs more to collect and send the material to a processor than to bury the material and may in fact produce more carbon to handle, store and transport the plastic. Glass does not have many outlets and is a very heavy commodity to transport. A better use for glass would be to find a way to use it locally such as mixing with gravel operations. Composting is a form of recycling and is currently done by many private citizens. The landfill is considering obtain a permit to develop a full composting operation for food and grass waste. The landfill does provide an outlet for e-waste, rechargeable batteries and fluorescent light bulbs.

What kind of permits are required to operate a landfill?

In Colorado, the Board of County Commissioners have to assign a Certificate of Designation (COD), the current landfill location has had since 1986. In addition, the landfill has to submit a Design and Operations (D&O) and submit amendments when any operations or technology changes, Construction Quality Assurance (CQA) Plans and Reports for landfill cell construction, Air Quality including Air Pollution Emissions and Title V Non Methane Organic Compound Air Permit, Storm Water, Spill Prevention
Do you have to graduate from school to work at a landfill?

Managing a landfill requires math (trigonometry, geometry, basic calculus, accounting), reading (regulations, equipment maintenance manuals, current technology articles in journals), writing (operating records, documentation of repairs), chemistry (ground water, landfill gas, surface water, waste characterization and profiling for special waste approval), mechanics (equipment operation and basic repair and maintenance), computer skills (equipment parts manuals, documentation, inputting information, database development and management, accounting, analysis), statistical analysis (graphing, progressive comparisons, means, averages, analysis), and finally customer relations. An education is important to run even a basic small loader. The manager and top supervisory personnel at landfills typically hold at least one or more certifications for landfill operations, transfer station operations, composting operations, planning and management, bioreactors (for those landfills that produce methane and energy), landfill gas operations, collection and recycling.

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