



Lagoon Pumping and Dredging, Inc.

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Pumping Costs & our 12% Solids Guarantee

The two major factors affecting the price of pumping is: 1) how thick the effluent is (% solids) and, 2) how far we have to pump the manure slurry (Hose miles).

Hose Miles:

This is determined by the layout of the hose from the lagoon to the tractor. It is figured in 1/8 mile segments as that is the length of each hose. We adjust the prices as soon as the hose miles reaches each ½ mile milestone as this closely equates how many booster pumps and the layout time required to reach a given field. Hose miles is how many hoses it takes to go through the culverts, around fields, and eventually to the far end of the field being applied. As soon as we have to use another hose (*even if it amounts to a 100 feet*) this will add another 1/8th mile to the hoses miles). Hose miles is fairly easy to measure and verify on Google Earth's mapping application.

Percent of Solids:

In areas where lagoon top water is utilized for irrigation or where there is lots of evaporation the remaining manure slurry solids vary widely. The percent of solids is an elusive figure and not known until the official lab reports are returned for the slurry delivered to the field. Our pumpers try to estimate the percent of solids when pumping; but these estimates are just an educated guess and often incorrect.

Our pumping costs are based upon the solid content because as thicker solids are being pumped there is more friction loss in our hoses and pumps and the harder it is to pump. In short, the higher the solids the less gallons per minute (GPM) we can pump. This equates in higher fuel costs, higher labor costs and higher maintenance costs to pump the same number of gallons. To put a cap on unexpected solids costs, Lagoon Pumping offers a 12% solid guarantee.

This works in 3 easy steps:

- 1) Lagoon Pumping will hold or guarantee the 12% solids or lower prices **IF** the customer will allow our pumpers to add water as necessary to achieve our pumpers estimate of 12% solid level.
- 2) Samples will be taken every 40 acres. When the certified lab results come back, within a week or so of finishing each field, the price for the gallons pumped to that field will be adjusted to match the percent of solids being delivered.
- 3) A spreadsheet will be made for all fields. The actual prices will be calculated for the solids delivered to each field. If we delivered less than 12%, the price will be adjusted down. If we delivered more than 12% solids, the actual price will be calculated. When all the fields have been adjusted one of two things will happen:
 - a. If the sum of all the adjustments is less than the collective price for 12% then Lagoon Pumping will credit the difference to the customer.

- b. If the sum of all the adjustments is more than the collective price for 12% solids then Lagoon Pumping will waive or forgive any amount over the collective 12% price.

TERMS OF 12% Solids Price Guarantee

Lagoon Pumping's 12% guarantee is a great way to put a cap on unexpected pumping costs. BUT the customers must have or allow two things:

- 1) The ready availability of several million gallons from another lagoon in which our pumpers can use to thin out the current lagoon being pumped.*
- 2) Give Lagoon Pumping permission to add water as our pumpers see necessary to achieve the estimated 12% solid content.*

The customer wins by agreeing to this 12% guarantee. If the manure slurry is less than the 12% they pay for only the solids being delivered. If the manure slurry comes back higher due to our pumpers best guess or estimate being missed, the customer only pays for the collective 12% prices.

The goal is to remove solids from a lagoon. While the cost per gallon goes up as the solid level rises, the actual price per dry ton of material being removed goes down. The formula for determining the dry tons removed is as follows:

$$\text{Dry tons} = \text{Gallons pumped} \times \text{percent of solids} \times \text{weight of gallon effluent (est. at 8.5 pounds)} / 2000$$

ie.) 510 tons dry solids = 1,000,000 gallons x .12 (12% solids) x 8.5 / 2000
(A dry ton of solids is roughly equivalent to a cubic yard of material)

Since the number of pumping days in the fall and spring are limited, the percent solids that reaches a cost and time effective equilibrium is at 12% solid level.

Sincerely,



Steven Larson - CFO, Sales & Marketing Manager
Lagoon Pumping & Dredging, Inc.
Cell: 763-355-4099

By signing below the customer agrees to the terms of Lagoon Pumping's 12% solids guarantee.

Customer Site: _____

Customer Signature: _____ Date: _____