

Peter L LaMontagne PE
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Consultant for Centrifuges and Related Systems

Agenda for the Hands on Training

People learn by Hearing, seeing, and doing. This portion is doing!

On the days following The class room portion of the centrifuge school, we will have three days of hands on training Prior to the week of training, I will provide an optimization spread sheet to assist in calculating optimization parameters. Your personnel will fill out the input data as best they can, and return it to me. This will be the economic basis for the centrifuge optimization program. Most plants have a number of supervisors and maintenance persons in the hands on training, as well as the centrifuges operators. Depending upon the size of the plant, and the number of people involved, we may choose to divide the group into teams. I will supervise the team(s) in developing the data themselves, following the agenda below.

Field Training Agenda

Each group will have a centrifuge to work on and do the following:

1. Evaluate the centrifuge at four different polymer dosages, developing an operating curve
2. Evaluate three different polymer addition points, collect samples or make observations to determine the effects of the addition point.
3. Perform a polymer jar test for 5 different dosages of polymer. Compare with a test using the same ratio of polymer to sludge as is running on their designated centrifuge.
4. Optional: One centrifuge will be selected to evaluate dam changes. Each group will establish the base line performance. Change the pond, and determine the change in the centrifuge's performance.
5. Calibrate the neat polymer addition system. Calculate the polymer concentration going to the centrifuge Calibrate the centrifuge polymer pump.
6. Meet with maintenance personnel and go over past history, and go over maintenance procedures.

For the Hands on program we will need:

- a. A table in a quiet area for polymer jar testing.
- b. One 10-15 cc plastic syringe or a 20 ml graduate, one 250 ml beaker with graduations, plastic cups and paper towels.
- c. Supply 50 sample jars for Total Solids/or suspended solids analysis, and provide analysis of same
- d. Two 5 gal buckets, one stop watch to calibrate the polymer system
- e. Spare dams and labor to install the same
- f. Three polymer addition locations on one centrifuge. (Internal, immediately in front of the centrifuge, and at least 25-50 feet ahead of the centrifuge.

The times given below are approximate, and may be adjusted to suit the Plant's schedules.

Within two weeks of the receipt of sample analysis, I shall submit a report (both paper and on compact disc) evaluating the program:

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- The final report usually runs 6-8 pages, and will contain an operating curve of cake dryness vs polymer dosage for your plant, which is crucial to evaluate dewatering cost.
- Evaluation of the polymer addition points and pond change.
- The final report contains the data collected, and spread sheets automatically establishing the lowest cost (Polymer and Disposal) at your plant, for two different disposal costs.
- We e-mail a copy of the active excel data sheet so that the plant has a convenient way to calculate costs in the future. (It's also on the compact disc)
- We evaluate the polymer system, and recommend changes to eliminate demonstrated short comings.
- We evaluate you polymer procurement documentation and procedures and suggest improvements
- We evaluate maintenance and repair experiences.
- We recommend dam changes and bowl speed changes where appropriate.
- We offer suggestions for further improvements to the plant

These programs have been developed by Peter La LaMontagne PE, and I will be the instructor. The class room portion is accepted by California, Colorado, New York, and Pennsylvania for 6.5 hours of education credit toward operator licensing. To my knowledge, no one else offers a similar course, either as a classroom program, or the classroom / hands application of the training in the plant. I know of no centrifuge manufacturers who have Professional Engineers, or any other degreed engineers who do this sort of work. Instead they rely upon technicians and repair shop technicians and sales persons for such training as may be required in conjunction with selling repairs and commissioning.

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