INTELLIGENT WATER SOLUTIONS
Certified Water Professionals

Case Studies

Industrial Laundry Wastewater Treatment

Case 1 – Wet Sludge Cake

A leading industrial laundry had recently constructed a new facility in New York. They were experiencing major issues pressing their wastewater sludge.

- Press operators needed to spend 3-4 hours cleaning the press after each use causing high labor costs and frustrated operators.
- Extremely wet cake caused excessive hauling costs.
- The dumpsters had to be lined with plastic on each haul due to wet cake and liquid draining from the haul truck during transport.
- The press had to be operated around the clock to keep up with the production of sludge. 3-4 presses per day were required.

Several specialty chemical suppliers and the press manufacturer had attempted to solve the problem over a three-year period with no success.

We were given the opportunity to solve the problem. The customer was very skeptical that we would be able to help due to all the time and effort that had be spent. Extensive bench testing of a wide array of chemistry was done to arrive at a custom formulation for the plant. Upon implementation of our products, the results were immediate.

- ✓ There was no need to clean the filter press as the cake was dry and released completely from the press.
- ✓ Hauling costs were reduced by 75% due to cake dryness.
- ✓ The liner for the dumpster was no longer required.
- ✓ The number of presses when from 3-4 per day down to one press per day.
- ✓ The customer estimated that they were saving over $200,000/yr. in labor and haul costs.

Case 2 – High Oil and Grease

A leading industrial laundry was experiencing violations on oil and grease in one of their Indiana plants. The situation had been elevated by the local POTW and the plant was in danger of being shut down. The current chemical supplier was not able to solve the problem and we were called in to help.

A few hours of bench testing were all that was required to come up with a coagulant that would crack out the oil so it could be removed in the DAF. Operational changes were also made to alleviate the surges in TSS when the DAF was idle for periods of time.

Case 3 – High TSS

A leading industrial laundry was experiencing violations on TSS in one of their New York plants. The current supplier had tried working with the operators to solve the problem with some training exercises. After the training the violations persisted.

We were called in to solve the problem. The issue was not with the operators but with the coagulant and flocculant chemistry and the chemical feed points. We formulated a custom product that would work with the light dayshift wastewater and the heavy nightshift wastewater. With some training and adjustment of the chemical feed points, our custom program was successful and gave the plant plenty of cushion on the TSS limits.

Case 4 – High BOD

A leading industrial laundry was exceeding their BOD limits in one of their Chicago area plants. They had tried working with a couple of specialty chemical suppliers but were not able to consistently meet their BOD limit.

We were called in to solve the problem. Our superior custom coagulant and flocculant formulation was able to reduce the suspended solids and BOD associated with suspended solids by 30%. Studies showed that there were periods of time where the dissolved BOD was in excess of the BOD limits. We were able to develop a secondary treatment method to address the dissolved BOD and ensure that the customer was able to comply with their BOD limits.

Case 5 – High Metals (Lead) Content

A leading industrial laundry was exceeding their limit on lead discharge at one of their facilities in Minnesota. The plant needed to treat garments from a customer that had high lead content. The current treatment program was unsuccessful in meeting lead discharge limits consistently and the plant was under pressure from the local POTW.

We were called in to solve the problem. Bench testing revealed that commonly used metals precipitants were not sufficient to solve the lead removal problem. By designing a custom formulated metal precipitant, we were able to easily treat the lead ladened garments and bring the lead discharge well below the limits.

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Case 6 – Performance Improvement AND Cost Savings

A leading industrial laundry was experiencing multiple issues with wastewater treatment at one of their plants in Illinois.

- Inconsistent sludge presses
- Wide variations in suspended solids at the DAF discharge
- Wide swings in chemical feed levels to try and address the poor performance.
- Increased hours from operators when the system was out of control.
- Frustrated operators and management.

We were asked to evaluate the wastewater operations and made the following changes:

- ✓ Replaced the coagulant with a better performing product.
- ✓ Moved the clay feed point.
- ✓ Replaced the flocculant with a better performing product.
- ✓ Training the operators on how to respond to changing wastewater conditions.

The result of our efforts was:

- ✓ Consistent sludge presses with high solids content
- ✓ Improved and consistent suspended solids removal at the DAF
- ✓ Chemical adjustments were minimal and only needed for the coagulant (one variable to deal with)
- ✓ No need for extended operator hours to address wastewater treatment issues.
- ✓ Reduced the clay use by 50%
- ✓ Reduced the coagulant and flocculant use by 50%