



Industrial Cleaning and Maintenance

Environmental Works

Industrial Maintenance and Cleaning Programs

- Goals
 - Increased Production Efficiency
 - Reduced Material and Capital Costs
 - Regulatory Compliance



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Case Study

- Company Profile
 - Manufacturing and Fabrication Facility
 - Point-of-Sale Displays
 - Raw Materials to Finished Product
 - Bar/Sheet Stock to Store-Ready Display
 - 10-15 Functional Production Points



ENVIRONMENTAL WORKS
OUR EXPERTISE. YOUR SUCCESS.

Case Study

- Production and Post-Production Related Problems
 - Powder Coating
 - Industrial Wastewater Treatment



ENVIRONMENTAL WORKS
OUR EXPERTISE. YOUR SUCCESS.

Production Problem

- Material Defects
 - End-User Identified
- Increase in Product Return
 - Variance Exceeds Expectations
- Unhappy Client
- Identify Problem



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Powder Coat System

- Conveyor Driven
- Three-Stage Wash System
- Material Application
- Kiln Dry



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Three-Stage Wash System

- Three Recirculating Reservoirs
- Water, Degreaser and Acid Wash
- In-Line Recirculating Pumps and Filters
- 300 High-Pressure Wash Ports
- Remove Cutting Fluids/Oils/Debris



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Three-Stage Wash System



Three-Stage Wash System

- Filters Ineffective or Removed
- High-Pressure Wash Ports Obstructed
- Increased Chemical Usage
- Uneven or Incomplete Wash
- Improper Surface Preparation



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Solution

- Pressure-Indicated Cleaning Events
- Replacement of In-line Filters
- Cleaning of Reservoirs
- Port and Line Cleaning
- Bypass Recycling of Cleaning Fluids



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Results

- Reduction in Material Defects
- Reduction in Additive/Chemical Use
- Increased Production Time



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Onsite Treatment System

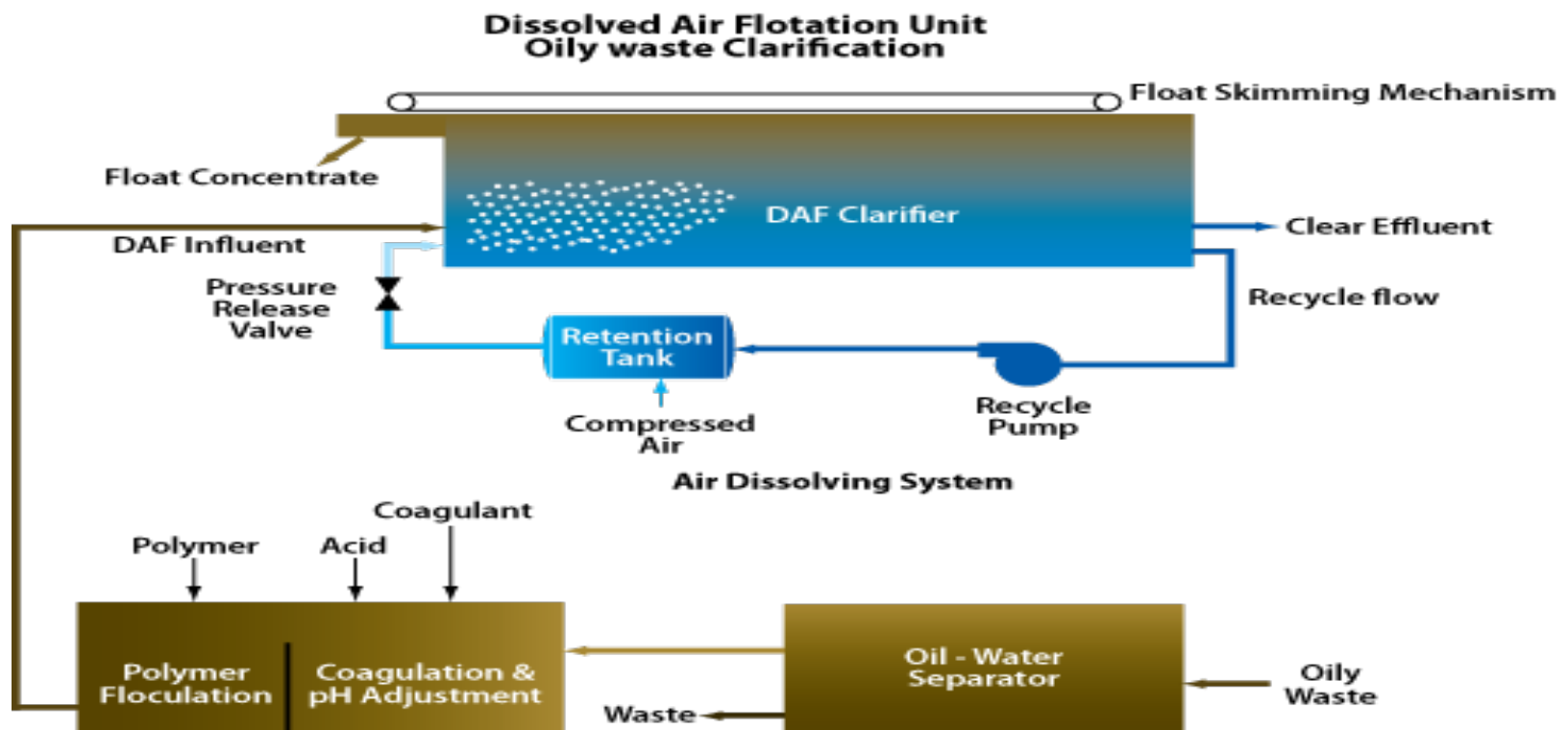
- Three-Part System
 - Oil-Water Separator
 - Chemical Treatment
 - Dissolved Air Flotation (DAF)
- Municipal Discharge Permit



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Onsite Industrial Wastewater Treatment



Onsite Treatment System

- Inconsistent Sampling Results
- Increased Chemical Treatment
- Increased Repair and Downtime
- Offsite Batch Treatment



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Onsite Treatment System

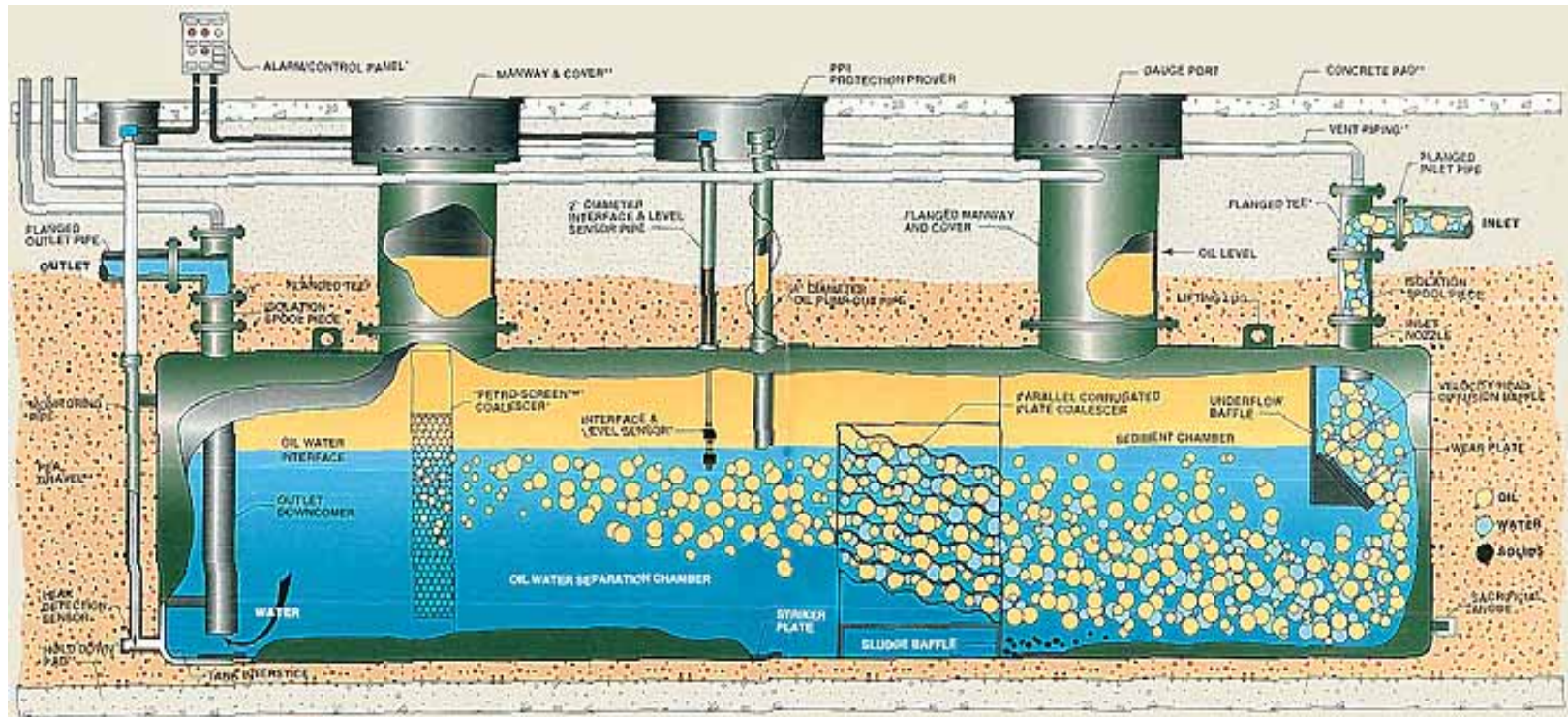
- Three Part System – Three Potential Problem Areas
 - Oil-Water Separator
 - Chemical Treatment
 - DAF



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Oil-Water Separator



Oil-Water Separator

- “Cleaned” Sporadically
- Removal of Contents (liquids) via Manway
- Coalescing Media and Baffles Never Cleaned
- Appeared to be Efficient



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Solution

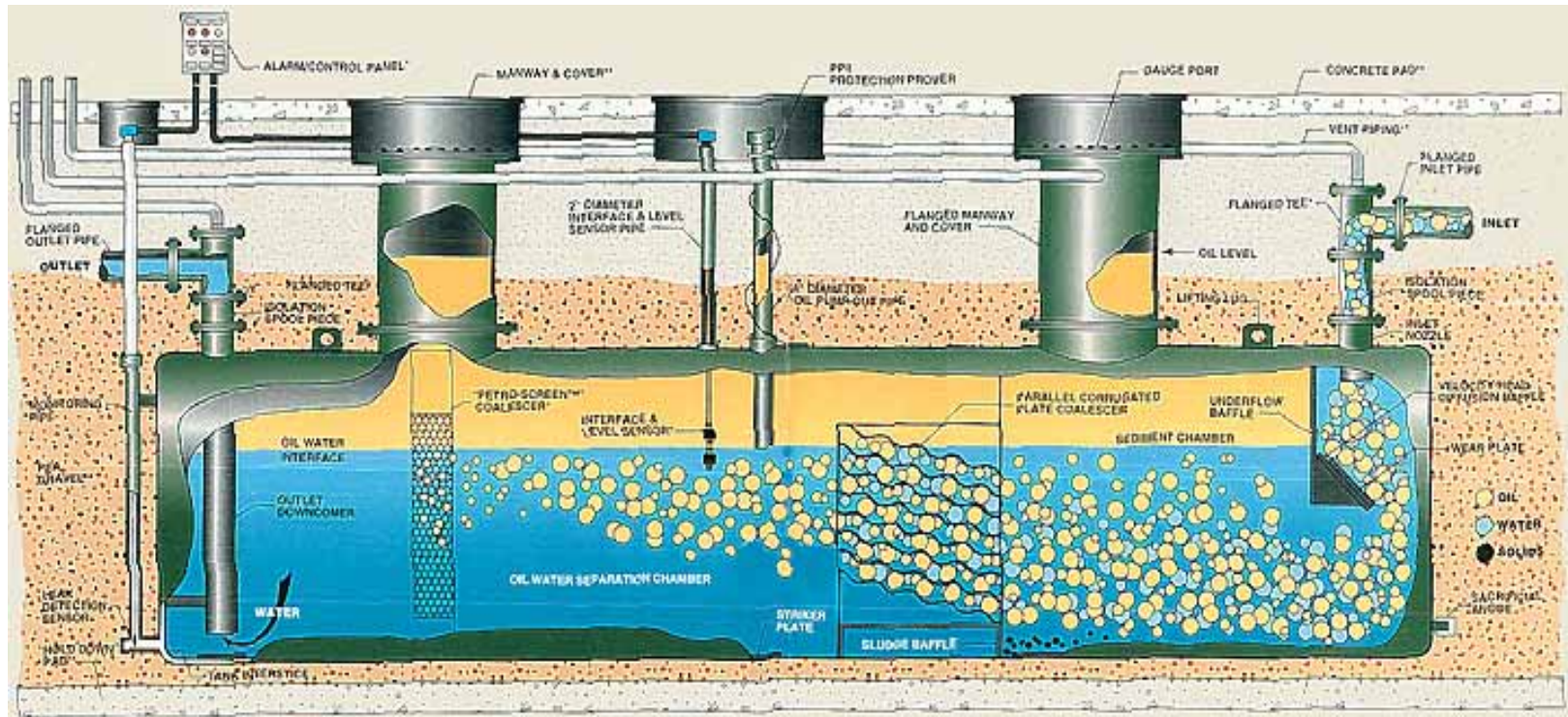
- Complete Cleaning
- Removal and Cleaning of Coalescing Media and Baffles
- 1.5' of Sludge Removed
- Influent and Effluent Lines Jetted



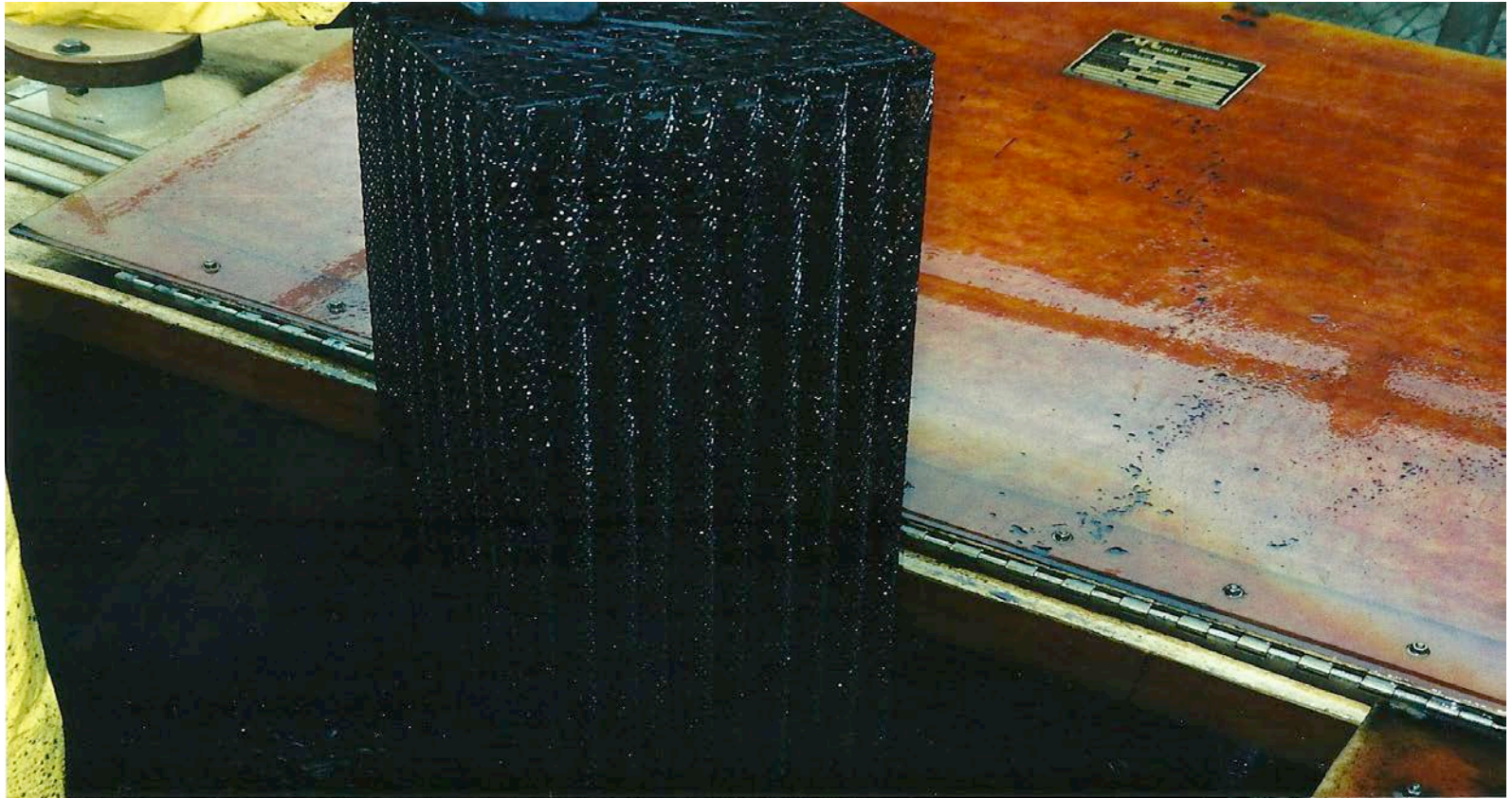
ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Oil-Water Separator



Oil-Water Separator



Results

- Increased Capacity of and Efficiency
- Reduced Chemical Usage
- Reduced Maintenance of DAF
- Consistent Compliance with Discharge Permit
- Scheduled Maintenance of Entire System



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.

Summary

- Goals of Industrial Maintenance Program
 - Increase Productivity
 - Regulatory Compliance



ENVIRONMENTAL WORKS

OUR EXPERTISE. YOUR SUCCESS.