



Automotive Manufacturer, MICHIGAN

THE CHALLENGE

The automotive facility has a wastewater treatment system that operates at 600 gpm. Waste streams from the various operations, which are combined in an equalization tank, are quite concentrated in oil & grease, dissolved and suspended solids, and heavy metals. In the current treatment, the pH is reduced, an emulsion breaker is added and DAF is applied to enhance separation of oil from water. Oil was skimmed off the surface. Lime slurry was then added to raise the pH and precipitate heavy metals and a flocculent was added to facilitate settling in the clarifier. Sludge was withdrawn periodically to a sludge tank and treated with sludge thickener and dewatered in a filter press. Annual treatment cost was \$ 1,630,000.

THE SOLUTION

Tests conducted over a period of several months, showed that a dose of 350 mg/L of AQUASIL® AMX-5G produced much better results than the existing treatment. Performance comparison, between current and AQUASIL® treatments, is shown in the TABLE below. Moreover, AQUASIL® generated a much drier waste.

Parameter	Limit (mg/L)	Conventional Treatment (mg/L)	AQUASIL® Treatment (mg/L)
Oil & Grease	50.0	1900	24.5
Suspended solids	NA	35.4	6.5
Total phosphorus	NA	13.2	0.34
COD	NA	991	597
Phenol	0.20	0.19	0.09
Cadmium	0.37	0.005	ND
Chromium	1.47	0.083	ND
Copper	1.80	0.280	ND
Lead	0.37	0.040	ND
Nickel	2.12	0.150	ND
Silver	0.37	0.006	ND
Zinc	1.39	0.180	ND

Cost analysis indicates that the AQUASIL® treatment reduces the cost of disposal by 60%, sewer surcharges by 70 % and the overall cost by 40%. Furthermore, the DAF operation and all hazardous treatment chemicals are eliminated and the cost of energy, maintenance, and labor is substantially reduced. The high quality of treated effluent, generated by the AQUASIL® treatment, allows for water conservation through reuse.

Great Chemistry At Work™