

Case History:

Water Treatment Helping Cars Stay Cool



CE-200GA Unit in Action Treating All Plant Wastewater

Automotive Industry: Orlando, Florida

A manufacturer of air-conditioning line connectors for automobiles was required by the city to meet new sewer discharge standards. They had been using a system of gravity separation which did not address suspended solids or soluble metals. Their wastewater is generated from 3 sources; mop water, parts deburring and polishing, and floor scrubber water. They generate approximately 6,000 gpd of wastewater.

CETCO Oilfield Services Company was retained to develop a system to meet their needs. After reviewing the city sewer discharge standards, limitations for space in the plant and flow through requirements, it was determined that a CE-200GA unit would handle their current needs as well as their future expansion.

After extensive analysis of representative wastewater from their facility at CETCO's Wastewater Evaluation Laboratory, a recommendation was made to include pH adjustment on the CE-200GA unit along with post treatment through PM-100™ and activated carbon. This total program guaranteed the removal of suspended solids, oil and grease, and soluble metals from the wastewater.

The system that was ultimately installed included a 2,500 gallon equalization tank equipped with an oil skimmer and mixer. Water from the equalization tank is pumped in 200 gal batches to the CE-200GA unit. The CE-200GA unit automatically adjusts pH and mixes RM-10® (a proprietary dry clay-based flocculant) with the wastewater. Within 2 minutes of mixing, a large floc develops in the water, removing all contaminants. When mixing stops the heavy floc falls to the bottom of the tank allowing for automatic decanting of clear water and subsequent dewatering of the resulting sludge over an indexing gravity bed filter. The treated water is collected in a bottom tank and then pumped through a bag filter, PM-100 vessel, and dual activated carbon vessels.

The RM-10 chemical is used as a primary treatment to remove gross contamination. The PM-100 media is an organophyllic clay granular media that is used as a pre-treatment to remove any trace oils that are left after RM-10 and before carbon. The activated carbon is used as a final polish to remove any trace metals that are left in the water. This unit has many fail safes to guarantee the quality of the final water going into the sewer.

This customer has been using the system for over a year with total confidence in its ability to comply with regulations and keep up with generated wastewater.

WATER TREATMENT | PIPELINE | WELL TESTING | WASTEWATER | RENTALS | NITROGEN SERVICES



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Wastewater Evaluation Report

SAMPLE IDENTIFICATION

Tumbling Wash & Rinse Tanks

Laboratory tests on samples submitted indicate the following before and after treatment*

Parameter

Discharge (in ppm or mg/L)	Untreated	Treated	Discharge Limits
Appearance	green	clear yellow green	unknown
Suspended Solids	458	74	200
pH	9.98	9.0	5.0 – 9.0
Oil and Grease IR-hexane	930	98	100
Cadmium	<0.005	<0.005	unknown
Chromium (total)	0.03	0.04	unknown
Copper	0.34	0.11	unknown
Nickel	0.03	0.05	unknown
Lead	0.08	<0.02	unknown
Zinc	1.71	0.60	unknown
Molybdenum	0.04	0.02	0.02
Phosphorus	96.3	1.26	unknown
Chemical Oxygen Demand	38700	3800	unknown

TREATMENT (estimated per 100 gallons wastewater)

1. Add approximately 0.6 gallons of CETcoag™ CA103 and mix.
2. Adjust pH to 10 sodium hydroxide.
3. Add approximately 2.9 lbs RM-10 2009, mix until flocculation and water clarity is complete, and then filter.

RESULT

This treatment was successful in reducing the contaminants analyzed for in the submitted sample.

*The information contained in this report is based upon the submitted water sample. Independent laboratory analysis may be required by local authorities to ensure on-site treatment results are similar to those contained in this report.



remove gross contamination



Sludge Evaluation Report

SAMPLE IDENTIFICATION

RM-10 Sludge

The Toxicity Characteristic Leaching Procedure (TCLP) (Federal Register, Vol. 55, No.126/June 29, 1990) was performed on the submitted RM-10 sludge. The leachate was tested for the following metals.*

Metals (mg/L)	RM-10 2009 Sludge	Limits (mg/L)
Arsenic	0.01	5.0
Barium	0.54	100.0
Cadmium	0.006	1.0
Chromium	0.09	5.0
Lead	<0.02	5.0
Mercury	0.06	0.2
Selenium	0.07	1.0
Silver	<0.005	5.0

RESULT

The sludge produced by the RM-10 treatment met the limits set by the Toxicity Characteristic Leaching Procedure (TCLP) (Federal Register, Vol. 55, No. 126/June 29, 1990).

*The information contained in this report is based upon the submitted water/sludge sample. Independent laboratory analysis may be required by local authorities to ensure on-site treatment results are similar to those contained in this report.



trace oils and metals

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