

## Long Beach Transit System

### THE RESULTS

The attached reports reflect Engine and Transmission results from both the untreated fleet and treated fleet.

In order to do like-comparisons for statistical significance in any test, samples are equally taken. For example, this analysis used (6) oil samples in total; (3) oil analysis samples taken before the treatment; and (3) oil analysis samples taken after the treatment. For the untreated fleet, the same time frame was used to evaluate the same number of oil samples as the treated one. This evaluation method meets the test of statistics.

The results presented in this report do reflect statistical significance in the reduction of metal wear in both major components tested (Transmission and Engines).

In summary, the metal wear reduction results are:

Long Beach Transit Enviro Save Program – Oil Analysis Final Results							
ENGINE				TRANSMISSION			
	Baseline Control Fleet	Treated Fleet	Net Change		Baseline Control Fleet	Treated Fleet	Net Change
Chromium*	-53%	-62%	-9% better				
Copper	-18%	-91%	-73% better	Copper	+26%	-44%	-70% better
Iron	-14%	-48%	-34% better	Iron	+1%	-35%	-36% better
Lead	-35%	-56%	-21% better	Lead*	-60%	-53%	+7% worse
Tin*	+682%	-40%	-722% better	Tin*	-45%	-70%	-25% better
Aluminum*	-16%	-89%	-73% better	Aluminum	-23%	-55%	-32% better

\* less than 1ppm in measurement