

LaFarge

The Rentar Fuel Catalyst (model Etorus) is currently installed on off-road equipment in two North American quarries for Lafarge, one of the leading publicly traded global construction materials companies

Two different types of pilots were conducted by Lafarge as per the methodologies requested by local Lafarge personnel, on two different types of off-road equipment (Cat 980H Wheel Loaders and Cat 777D Off-Highway Trucks), with substantially similar results



LaFarge Improvement in Fuel Efficiency



Lafarge Pilot #1: Utilizing a control group and a test group (each consisting of two Cat 980H wheel loaders) and comparing baseline to post-installation fuel consumption, fuel efficiency was improved by 16.04% in Canada

	Caterpillar 980H Wheel Loaders (Canada)						
	Baseline			Post-Installation			Change
	Engine Hours	Liters	Liters/Hour	Engine Hours	Liters	Liters/Hour	
Cat 980H (Control Group)	520	11,143	21.44	1,891	45,249	23.92	11.57%
Cat 980H (Test Group)	409	10,002	24.47	1,881	43,976	23.38	-4.46%
Fuel Consumption Delta:							-16.04%

Lafarge Pilot #2: Comparing the baseline and post-installation fuel consumption of five Cat 777D off-highway trucks (with no control and test group), fuel efficiency was improved by 14.11% in the United States

	Caterpillar 777D Off-Highway Trucks (U.S.)						
	Baseline			Post-Installation			Change
	Engine Hours	Liters	Liters/Hour	Engine Hours	Liters	Liters/Hour	
Cat 777D: Truck 1	297	15,388	51.81	304	14,790	48.65	-6.10%
Cat 777D: Truck 2	188	12,204	64.92	194	9,323	48.06	-25.97%
Cat 777D: Truck 3	201	12,340	61.40	420	21,675	51.61	-15.94%
Cat 777D: Truck 4	241	13,506	56.04	348	17,118	49.19	-12.23%
Cat 777D: Truck 5	198	11,458	57.87	270	14,017	51.92	-10.29%
Average Change in Fuel Consumption:							-14.11%

Heidelberg Cement



- The Rentar Fuel Catalyst (model Etorus) is installed on off-road equipment in a European quarry for Heidelberg Cement, another one of the leading publicly traded global construction materials companies
- Utilizing a control group and a test group (each consisting of two Komatsu HD605 Off-Highway Trucks and one Komatsu PC750 Excavator) and comparing baseline to post-installation fuel consumption, fuel efficiency was improved by 14.69% in Europe

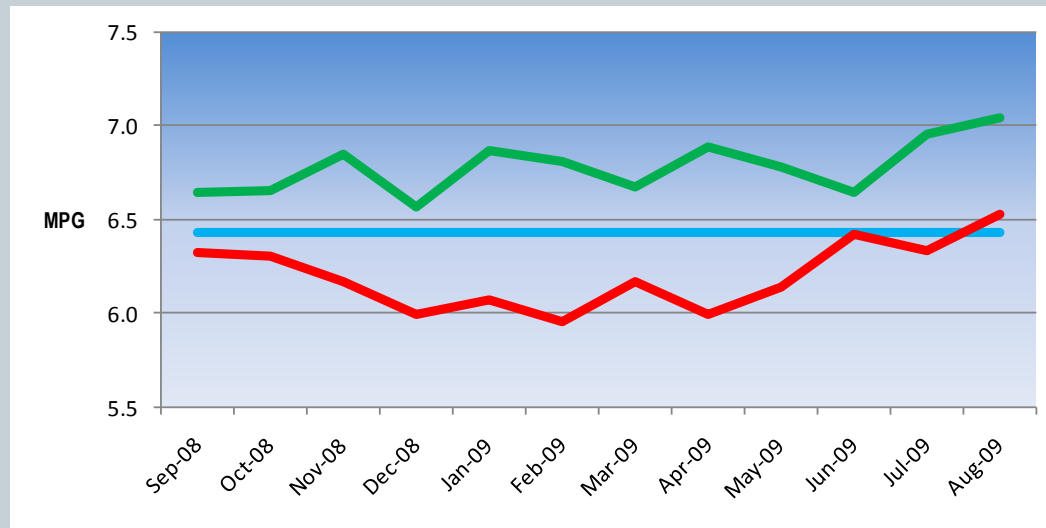
	Baseline			Post-Installation			Change
	Engine Hours	Liters	Liters/Hour	Engine Hours	Liters	Liters/Hour	
<u>Control Group</u>							
Komatsu HD605	630	20,449	32.46	358	11,773	32.89	1.31%
Komatsu HD605	1,215	39,994	32.92	337	12,080	35.85	8.90%
Komatsu PC 750	637	37,196	58.39	317	20,160	63.60	8.91%
Total	2,482	97,639	39.34	1,012	44,013	43.49	10.55%
<u>Test Group</u>							
Komatsu HD605	607	19,794	32.61	347	10,418	30.02	-7.93%
Komatsu HD605	931	33,273	35.74	349	11,856	33.97	-4.95%
Komatsu PC 750	620	38,443	62.00	342	19,924	58.26	-6.04%
Total	2,158	91,510	42.41	1,038	42,198	40.65	-4.13%

Fuel Consumption Delta: **14.69%**

Rinehart Oil



- The Rentar Fuel Catalyst (model Etorus) was installed on over-the-road trucks in the U.S. for Rinehart Oil, a fuel distribution company. Utilizing a control group and a test group (consisting of Class 8 over-the-road trucks with Cat C12 engines) and comparing baseline to post-installation miles per gallon (MPG), fuel efficiency has been improved by 8.99%.



	Post-Installation (Control and Test vs. Baseline)											
	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09
Test Group MPG (vs. Baseline)	3.3%	3.4%	6.5%	2.0%	6.7%	5.8%	3.6%	7.1%	5.3%	3.2%	8.2%	9.5%
Control Group MPG (vs. Baseline)	-1.7%	-2.0%	-4.1%	-6.8%	-5.6%	-7.5%	-4.1%	-6.9%	-4.6%	-0.2%	-1.5%	1.5%
MPG Improvement (Delta)	5.0%	5.3%	10.6%	8.8%	12.3%	13.2%	7.7%	13.9%	9.9%	3.3%	9.7%	8.0%
Average MPG Improvement (Delta)												8.99%