BOILER TEST REPORT 3 SADORE LANE, YONKERS NY. 10710 FITCH FUEL CATALYST



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Dated: August 10, 2009 update: March 25, 2010—fuel usage data.



Representantes / Distribuidores Exclusivos

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Executive Summary

Purpose:

A test program to measure the benefit of the Fitch Fuel Catalyst on #6 heating oil fired boilers in an apartment co-

operative.

Location: 3 Sadore Lane, Yonkers NY. 10710

Boiler: Federal FST 250 Horsepower

Burner:IC DEG 105P @75 gallons per hour.

Dates: Baseline data collection – July 7, 2009

Fuel Catalyst activation - July 13 & 20, 2009

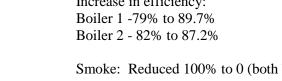
Final Data collection: Aug 10, 2009

Results: Reduction in fuel consumption for whole building

7.3% or approximately 9,153 gallons July 20 through March 3

Increase in efficiency: Boiler 1 -79% to 89.7%

Smoke: Reduced 100% to 0 (both boilers)



Discussion:

There are 3 seven story buildings located at this site. Oil fired boilers are used for heat and hot water. # 3 Sadore Lane is the first of these to be fitted with Fitch Fuel Catalyst. The boilers operate on #6 heating oil. Baseline emissions and temperature readings were taken. The Fitch units were then installed and allowed to run for a period of time before retesting. Robert Germain PE witnessed final testing of the boilers.

Personnel:

Frank Spadaccini Marlande Heating Corp

Marlande Heating Corp Baseline test Louis Barrientos Alfred Maikowski Marlande Heating Corp Fitch test

Robert Germain Germain Robert F ME PE

Michael Best Advanced Power Systems International, Inc.

Fitch Fuel Catalyst Technology:

Advanced Power Systems International, Inc. (APSI) the manufacturer describes the product in literature as follows: "The Fitch Fuel Catalyst is a polymetalic alloy housed in a canister and connected into a fuel system between the fuel tank and the burner. Its purpose is to reformulate fuel prior to combustion. It performs its function at the temperatures experienced by the equipment in normal service. The Fitch Fuel Catalyst is not a fuel additive. It is a special alloy that does not dissolve in fuel. The fuel is reformulated by the alloy catalyst to a state where it is capable of a more complete combustion. As a result, a boiler converts the chemical energy in the fuel to heat energy in a more efficient manner. The boiler efficiency is increased and the toxic exhaust emissions are decreased."



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Comparison of Baseline and Post Installation Data.

Test Personnel: Louis Barrientos Marlande Heating Corp

Test Procedure:

Fitch Fuel Catalyst units sized to service the boilers were installed. The boilers use #6 heating oil from 2 common 10,000 gallon in ground fuel tanks through separate heating and pump sets for each boiler. The Fitch units were installed with bypasses in the pump set supply line that services each boiler. Marlande Heating recorded baseline and post Fitch installation emissions and efficiency readings and ensured the system was operating within specification. Degree day data was collected and fuel delivery information provided by Castle Oil.

Test Data:

	July 7, 2009	Aug 10, 009	
Boiler #1	Baseline Reading	With Fitch	% Change
Ambient temp F	90	105.4	17.1%
Stack temp F	620	367.8	-40.7%
Smoke #	2	0	-100.0%
CO2 %	9.50%	12.96%	36.4%
Efficiency %	79%	89.7%	13.5%
Boiler #2		With Fitch	% Change
Ambient temp F	90	99.7	10.7%
Stack temp F	580	419.6	-27.6%
Smoke #	2	0	-100.0%
CO2 %	9%	10.42%	15.7%
Efficiency %	82%	87.2%	6.3%
Time period	11/5/08 -7/15/2009	7/15/09 -3/3/10	
Degree days	4557	3672	_
Gallons/ degree day	34.06	31.57	-7.3%
Est. degree day fuel savings			9,153 gallons

Test Results Discussions:

"The measured data indicate the boilers are running more efficiently after the Fitch Fuel Catalyst installation. This result is consistent with every installation we have done to date with Fitch. Smoke and soot related measurements and customer complaints are reduced in #6 fuel oil applications through the use of the Fitch Fuel Catalyst product."

Robert Hortsmann – Marlande Heating,

"Prior to the installation of the Fitch Fuel Catalysts at 3 Sadore Lane, we had responded to several service calls pursuant to smoking conditions, carbon build-up calls and safety conditions on both burners. Since the installation of the Fitch units in the beginning of July, we have not responded to a single service call."

Frank Spadaccini – Marlande Heating, Service Manager

Conclusions – Results from Fitch Install

- 1. Combined boiler combustion efficiency improved by 9.9%.
- 2. Smoke reduced to 0 from 1 indicating optimal combustion.
- 3. Combined degree day adjusted fuel consumption declined by 7.3%.

Purpose:

To have an engineer witness the measurement of burner efficiency and emissions after installation of the Fitch Fuel Catalyst on the test boilers.

Boiler: Two Federal FST 250 Horsepower

Burner: IC DEG 105P @75 gallons per hour.

Fitch Fuel Catalyst - Model FHD5-UL manufactured by APSI installed by Marlande Heating.

Location:

3 Sadore Lane, Yonkers NY. 10710

Test Personnel:

Alfred Majkowski Marlande Heating Corp

Consulting Engineer:

Robert Germain Germain Robert F Me PE

Marlande Heating measured the Fitch emissions and efficiency readings and ensured the system was operating within specification.

Robert Germain (PE) witnessed the data collection on August 10, 2009 test. Data recorded below.

Test Data:

	Aug 10, 009	
Boiler #1	With Fitch	
Ambient temp F	105.4	
Stack temp F	376.8	
Smoke #	0	
CO2 %	12.96%	
Efficiency %	89.7%	
Boiler #2	With Fitch	
Ambient temp F	99.7	
Stack temp F	419.6	
Smoke #	0	
CO2 %	10.42%	
Efficiency %	87.2%	







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Combustion Chamber Flame



#3 Sadore Lane Boiler Room



Fitch Installation on Boiler Fuel Line



