

Background

General Info

Test Date:	Feb. 11, 2013
Site / Location:	Customer F, Karachi
Fuel type:	Other
Dose Rate (L/g or ratio):	
Product used:	Ferox Powder
Make:	
Model:	
Capacity:	
Year manufactured:	
Hours run per day:	
Total hours on Machine:	
Maintenance cycle:	
Notes & Observations:	Two measurements were taken and marked 8:00, but the numbers recorded were not identical so they seem to be unique measurements. I adjusted the

HFO / RFO Information

Fuel Spec	Unit	IP Meth	ASTM Method
Density at 15C:	Kg / Ltr		
Kinematic Viscosity at 50C:	cST		
Flash Point (Pensky-Martens):	Celcius		
Pour Point:	Celcius		
Gross Calorific value:	Kcal / Kg		
Water content:	% vol		
Sediment:	% mass		
Ash content:	% mass		
Sulfur content:	% mass		
Conradson Carbon:	% mass		
Vanadium:	% mass		
Sodium:	% mass		

Baseline - No Ferox Added								Product Test - Add Ferox							
Time	Time (hours)	Fuel Used (Liter)	Steam Press. (bar)	Steam Temp. (°C)	Steam Flow (Tons)	Feed Water Temp (°C)	Efficiency (Kilo-Joules / Liter)	Time	Time (hours)	Fuel Used (Liter)	Steam Press. (bar)	Steam Temp. (°C)	Steam Flow (Tons)	Feed Water Temp (°C)	Efficiency (Kilo-Joules / Liter)
5:00		0	10.00	150.00	0	90		12:00		375	6.00	190.00	4.98	90	
6:00	1.00	260	9.00	200.00	1.85	90	17,175 Start	13:00	1.00	375	5.00	190.00	2.85	90	18,299
7:00	1.00	375	7.00	200.00	6.15	90	39,586	14:00	1.00	360	5.00	210.00	3.22	90	21,635
8:00	1.00	358	7.00	200.00	6.15	90	41,466	15:00	1.00	360	6.00	220.00	3.1	90	20,872
9:00	1.00	355	7.00	200.00	4.68	90	31,821	16:00	1.00	350	6.00	235.00	1.9	90	13,169
10:00	1.00	360	8.00	210.00	4.69	90	31,512	17:00	1.00	370	6.00	235.00	4.07	90	26,684
11:00	1.00	359	9.00	210.00	7.1	90	47,837	18:00	1.00	375	7.00	230.00	2.93	90	18,954
12:00	1.00	375	6.00	190.00	4.98	90	31,976 End	19:00	1.00	370	8.00	230.00	2.87	90	18,816
	0.00							20:00	1.00	375	6.50	235.00	3.95	90	25,552
	0.00							21:00	1.00	375	7.50	230.00	4.17	90	26,975
	0.00							22:00	1.00	380	10.00	230.00	4.41	90	28,152
	0.00							23:00	1.00	320	10.00	240.00	4.93	90	37,372 Start
	0.00							0:00	1.00	310	10.00	240.00	3.76	90	29,423
	0.00							1:00	1.00	300	10.00	220.00	4.22	90	34,095
	0.00							2:00	1.00	300	9.50	250.00	4.92	90	39,767
	0.00							3:00	1.00	317	10.00	230.00	4.1	90	31,375
	0.00							4:00	1.00	300	7.00	250.00	5.8	90	46,879
	0.00							5:00	1.00	300	6.50	180.00	4.1	90	32,797
	0.00							6:00	1.00	310	9.00	250.00	2.8	90	21,901
	0.00							7:00	1.00	300	7.00	250.00	3.2	90	25,865
	0.00							8:00	1.00	265	7.00	160.00	4.08	90	36,640
	0.00							9:00	1.00	260	7.00	220.00	3.97	90	37,010
	0.00							10:00	1.00	110	5.00	150.00	1.05	90	22,611 End
	0.00								0.00						
	0.00								0.00						
	0.00								0.00						
	0.00								0.00						

Calculation Boundaries

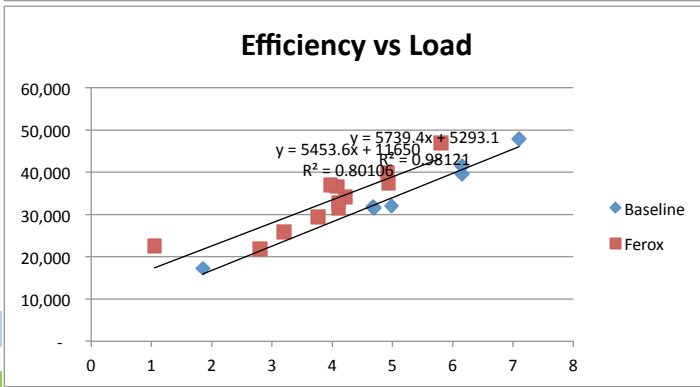
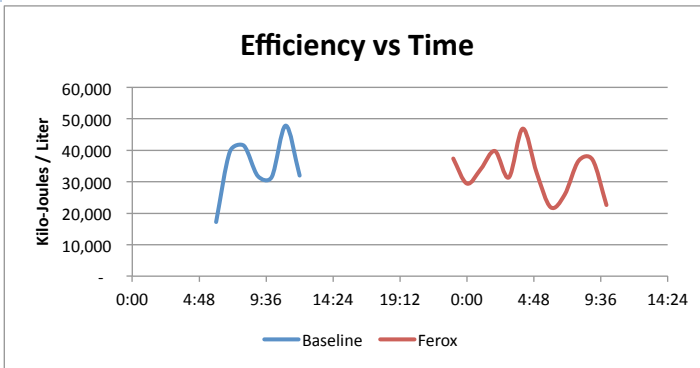
	Row	
Baseline Start	23	12
Baseline End	29	13
Ferox Start	33	14
Ferox End	44	15

Results

Baseline Average	
Fuel Consumption	348.86 Liters / Hr
Efficiency	35,201 kJ / Liter
Temperature	201.91 °C
Pressure	7.49 bar
Mean Load	5.09 Tons / Hr
Std. Dev. Load	1.56 Tons / Hr

Results Average	
Fuel Consumption	282.67 Liters / Hr
Efficiency	33,448 kJ / Liter
Temperature	224.99 °C
Pressure	8.38 bar
Mean Load	3.91 Tons / Hr
Std. Dev. Load	1.15 Tons / Hr

% Change	
Fuel Consumption	-18.97% Liters / Hr
Efficiency	-4.98% kJ / Liter
Temperature	11.43% °C
Pressure	11.82% bar
Mean Load	-23.10% Tons / Hr
Std. Dev. Load	-26.70% Tons / Hr



Trend

	Baseline	Ferox	% Change
Efficiency	30,223	35,338	16.93%

This section would be modified to show how much money is being saved for this particular customer given the test results

Return On Investment calculation sheet

Enter your Numbers here

Fuel

Price: Per

Fuel Usage

Fuel consumption: Liters How much fuel do you consume in a month?
 Fuel Cost: \$132,000,000.00

Product

Product Cost: Per Treated

Summary

Fuel Cost: \$132,000,000.00
 Product Cost: \$9,600,000.00
 Total Cost: \$141,600,000.00

Results	Electric	Electric Trend	Steam	Steam
Efficiency Increase:	0.00%	0.00%	-4.98%	16.93%
Per Unit Savings:	\$0.0000	\$0.0000	-\$0.0548	\$0.1862
Total Savings:	\$0.00	\$0.00	-\$6,917,350.37	\$19,107,532.65
Net Return:	\$0.00	\$0.00	-\$16,517,350.37	\$9,507,532.65