Overall Information

Table1- Overall Information

Vehicle plate number	78514
CPK data logger number	LN: 001496, DN: 1914, Sim +989218355923
Bus line	Number 4 (south to north bus line)
Bus Terminals	Tehran South Bus Terminal - Park Way Bus Terminal
Total path distance	22.8 km
DPF producer company	HJS_01 (Passive system with FBC)
Installation date	10/Sep/2014
Report period	16/Sep/2015 – 30/Sep/2015 (fifteen days)
K value - DPF upstream	1.60 [1/m]
K value – DPF downstream	0.02 [1/m]

Table 2- DPF Maintenance History

Filter maintenance date	DPF core was cleaned on Jun 13th.
Dosing status	Dosing value has been kept constant from installation date until now.

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Table 3- Fuel and Additive Consumption Information

|	
Bus mileage (from DPF installation date)	59805 km
Bus mileage over the period	3484 km
Working days over the period	14 days
Stop days	1 day
Data logger working days	14 days
Working hours over the period	184 hours 8 minutes
Average working hours per day (including stop days)	12 hours 16 minutes
Bus average speed	18.92 km/hr
idle speed time to all working time ration	50.47 %
Total Bus fuel consumption over the period	2089 lit
Fuel consumption per hour	11.34 lit/hr
Average fuel consumption	0.6 lit/km
Total Bus additive consumption over the period	0.9 lit
Average additive consumption	257 cc/km
Additive consumption to fuel ration	430 cc/1000lit

Temperature, Pressure and Engine Speed Overview
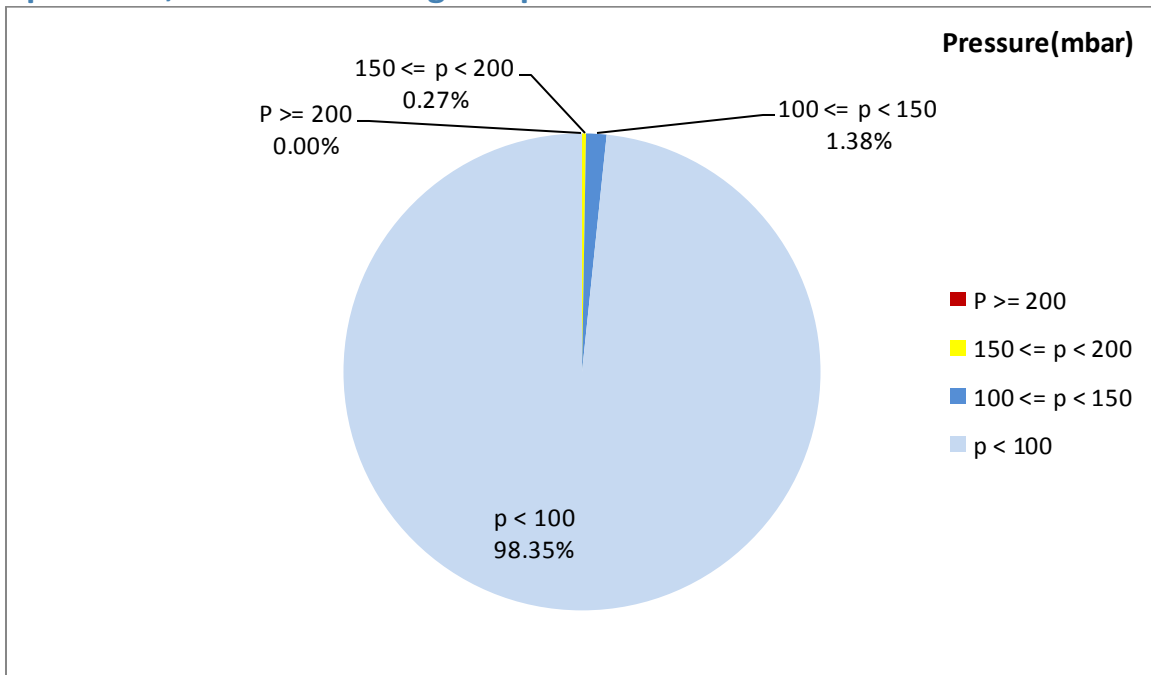
Pressure(mbar)

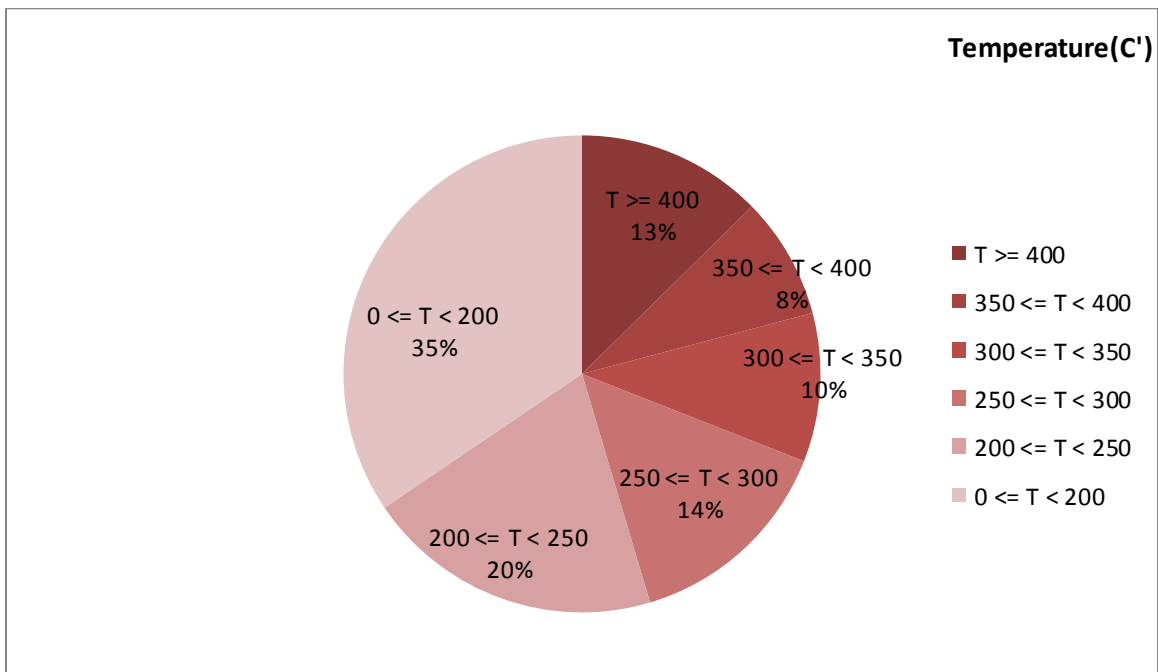*Figure 1- Pressure distribution over the working hours*

Temperature(C')

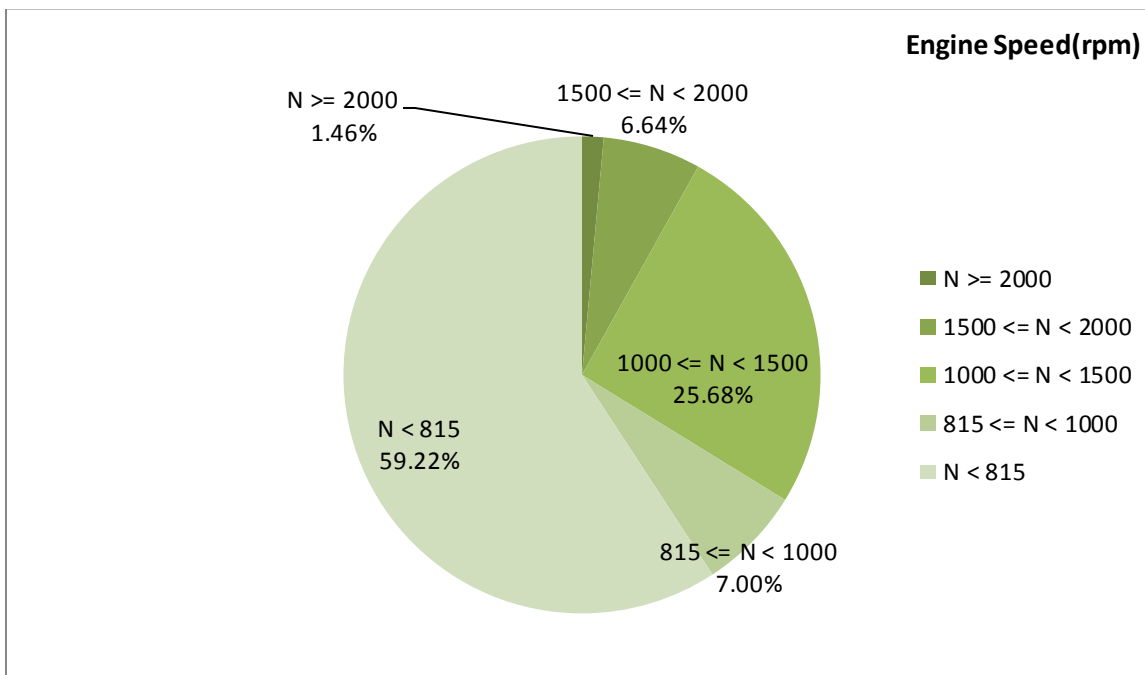*Figure 2-Temperature distribution over the working hours*

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Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
259.96	17.39	877

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
318.36	29.49	1171

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
618-50	210-0	2352-256

Detailed Pressure Analysis
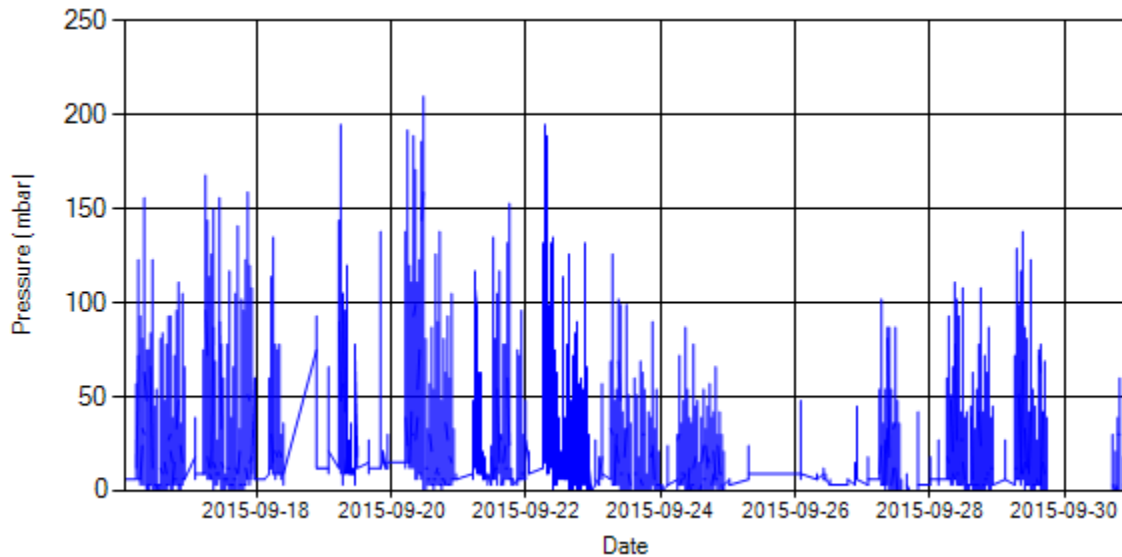
Figure 4- Pressure distribution over the period
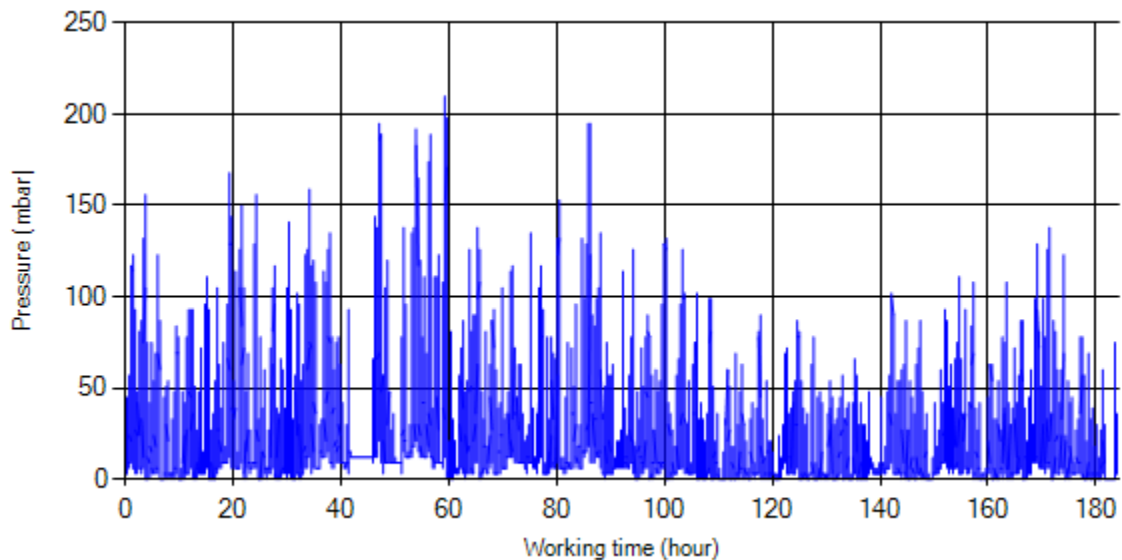
Figure 5- Pressure vs. working hours

Notice: backpressure distribution was shown into two diagrams. As obvious in figure 5, stop-working periods were eliminated and pressure was displayed along working hours.
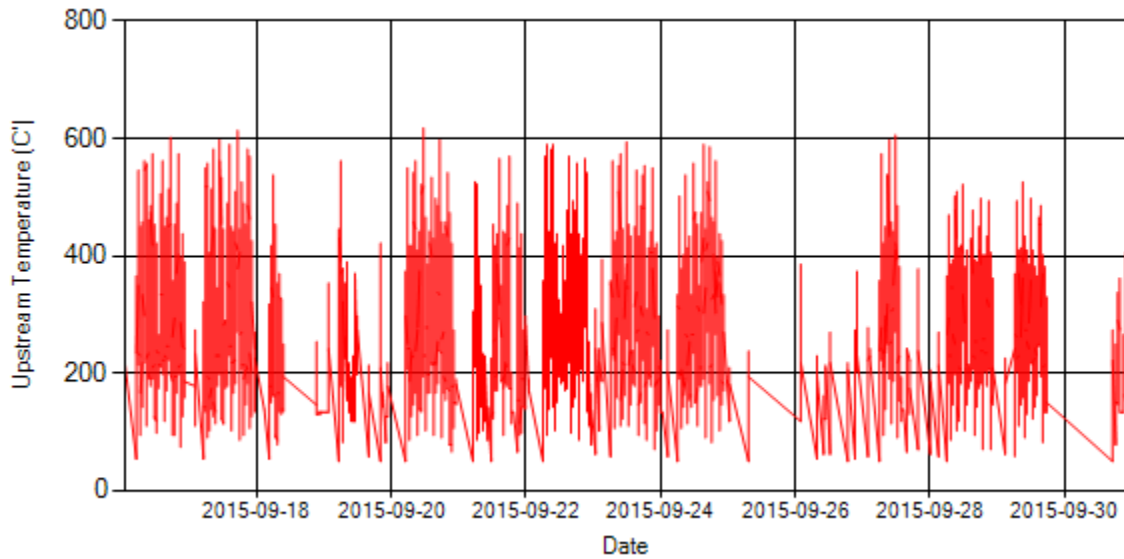
5

Detailed Temperature Analysis

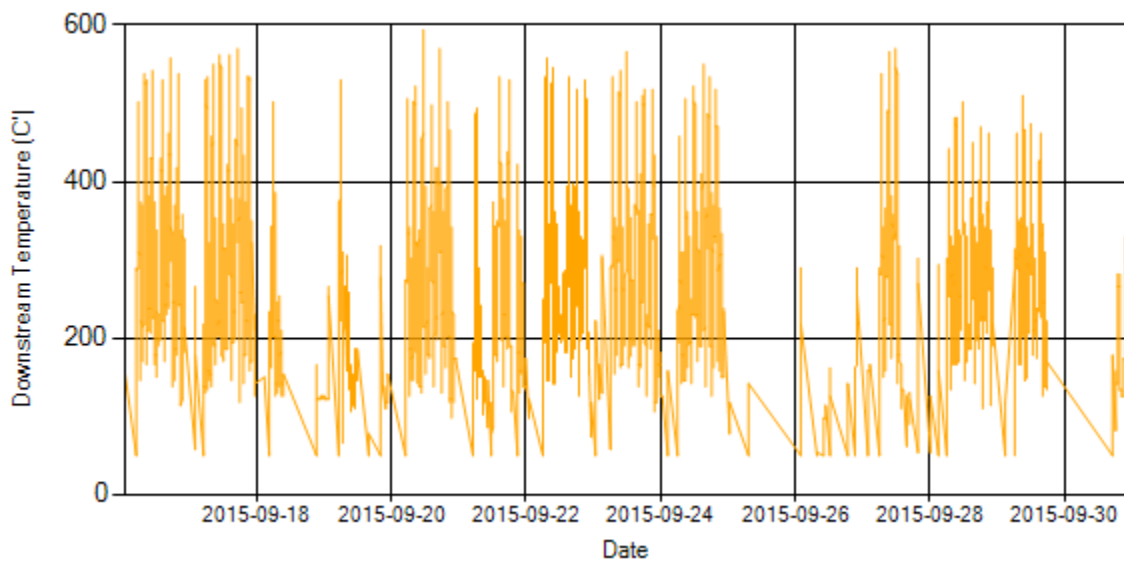*Figure 6- Temperature distribution over the period*

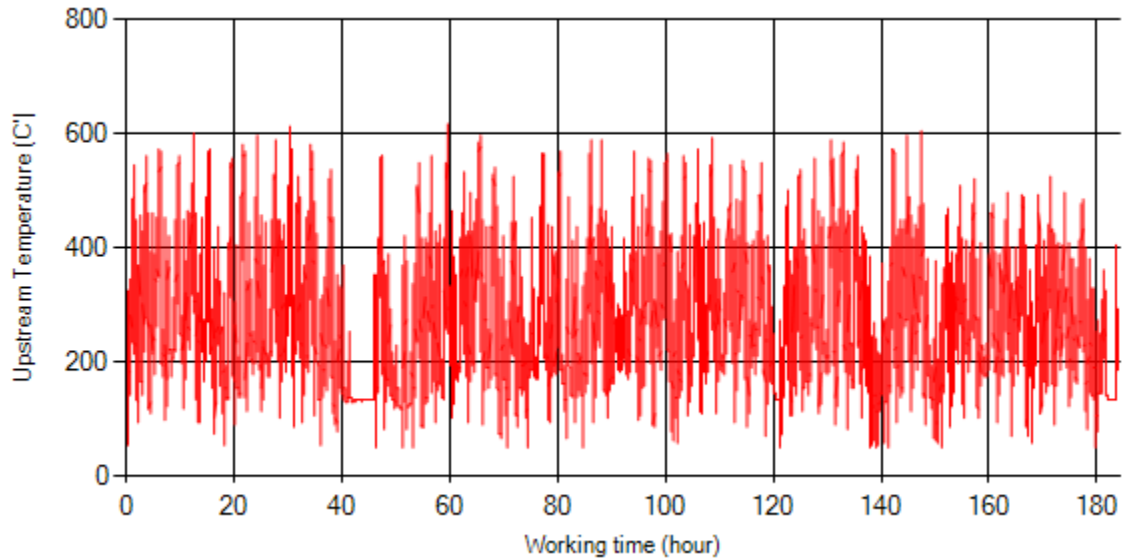*Figure 7- Temperature distribution over the period*
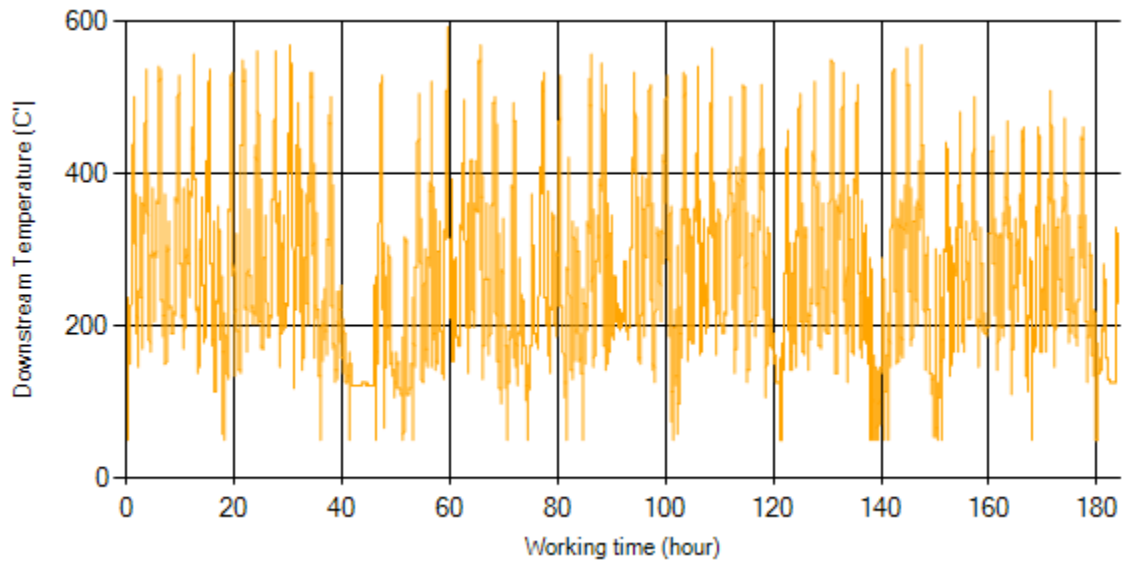
6

Figure 8- Temperature vs. working hours

Figure 9- Temperature vs. working hours
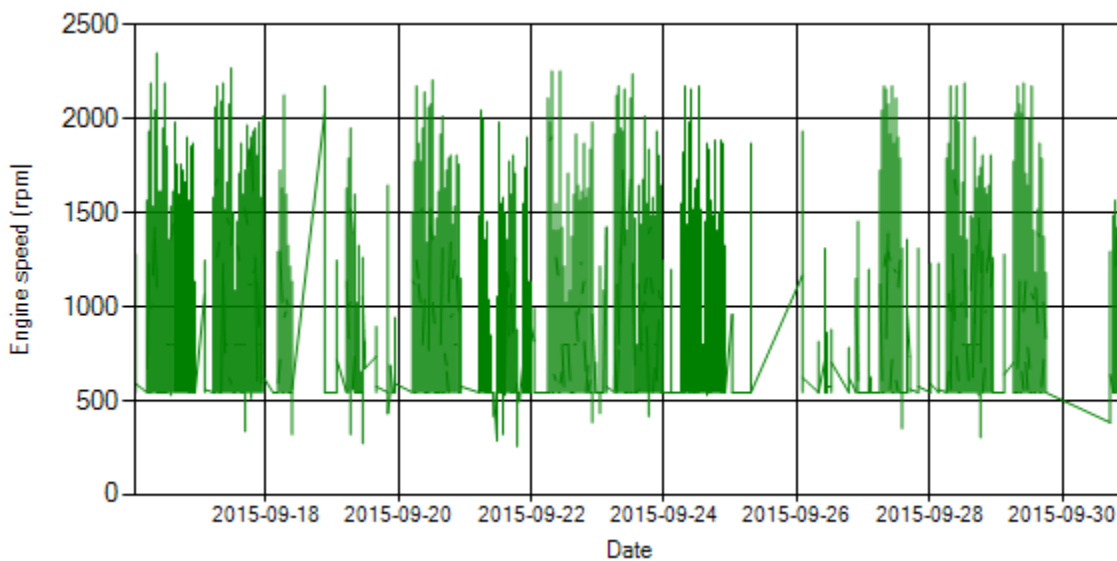
7

Engine Speed Diagrams

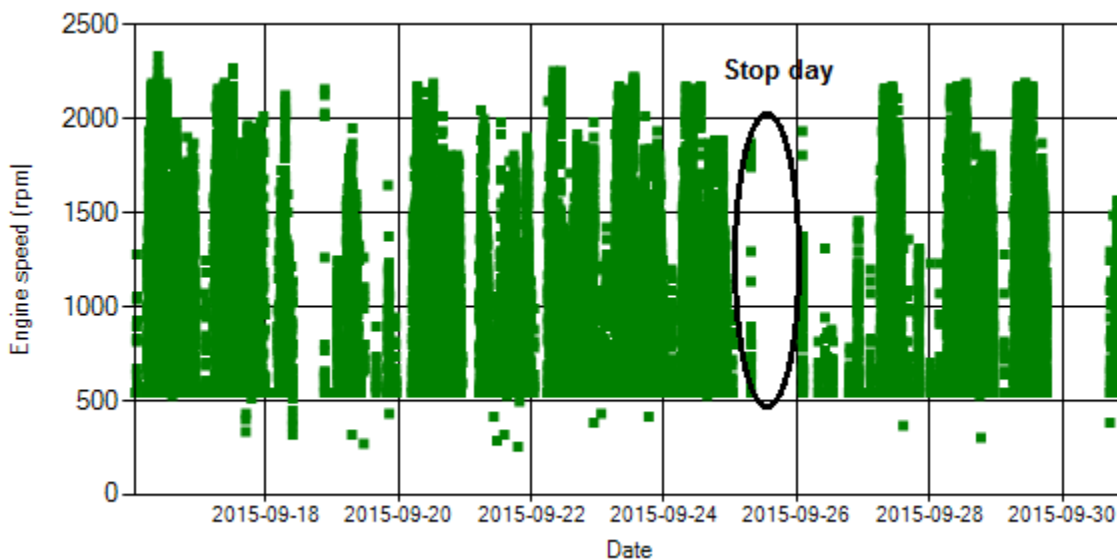*Figure 10- Engine speed distribution over the period*

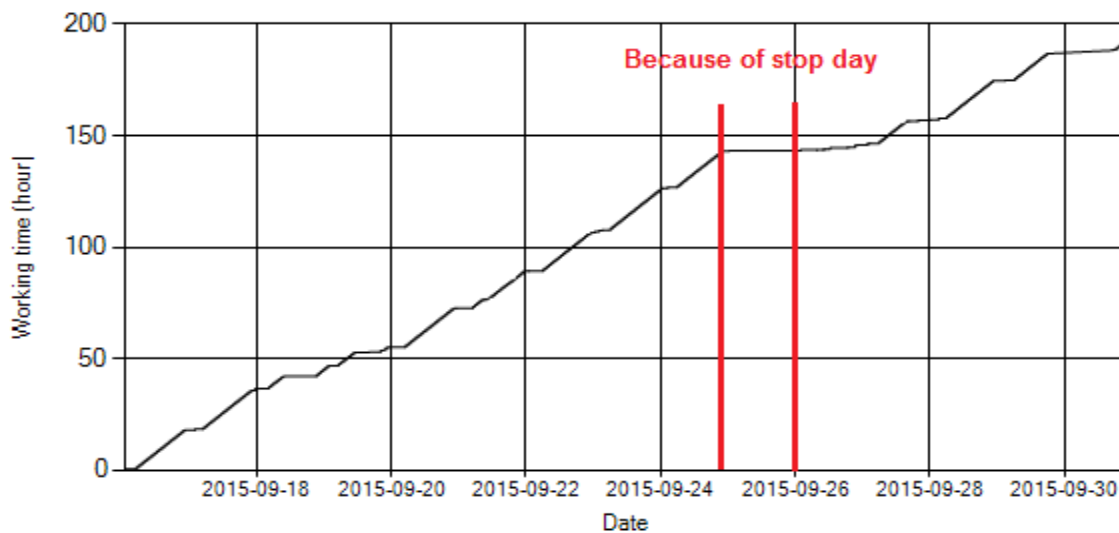*Figure 11- Engine speed diagram for calculating CPK's working days*

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Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data.

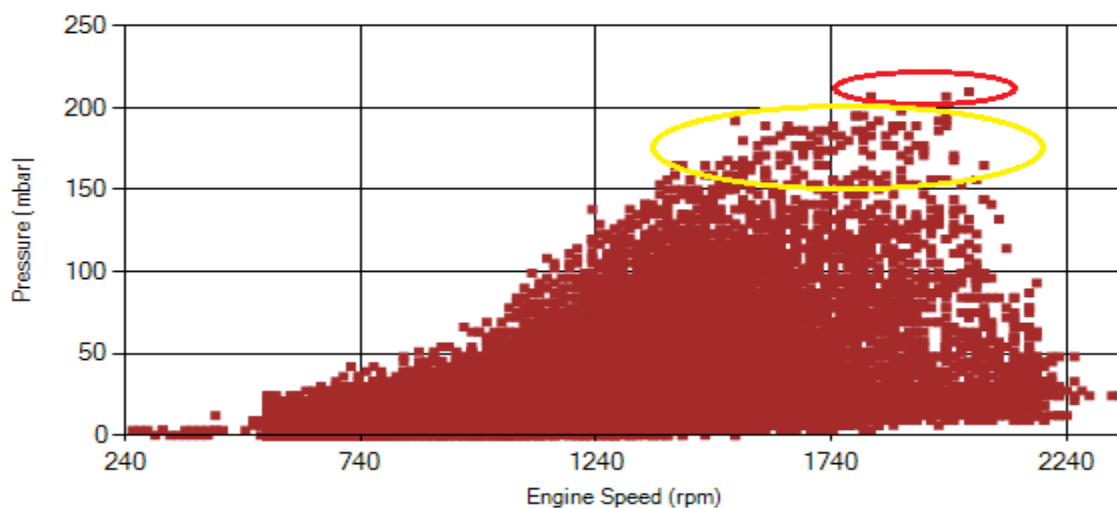## Pressure-Engine Speed diagrams

Figure 13- Pressure against engine speed

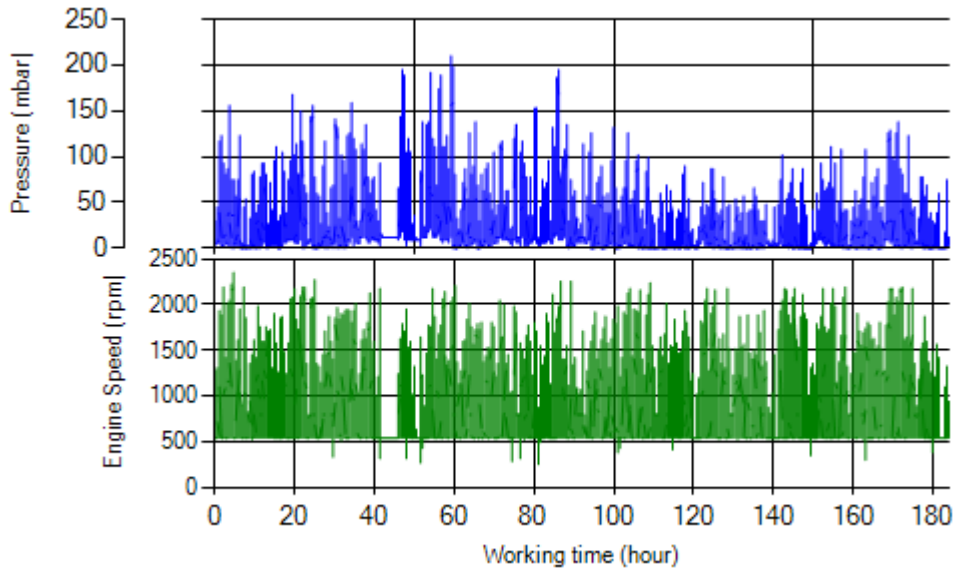Notice: Red alarm (pressure>200 mbar) and yellow alarm (200>pressure>150) ranges were indicated in figure 13.

Figure 14- P, N distribution vs. working hours

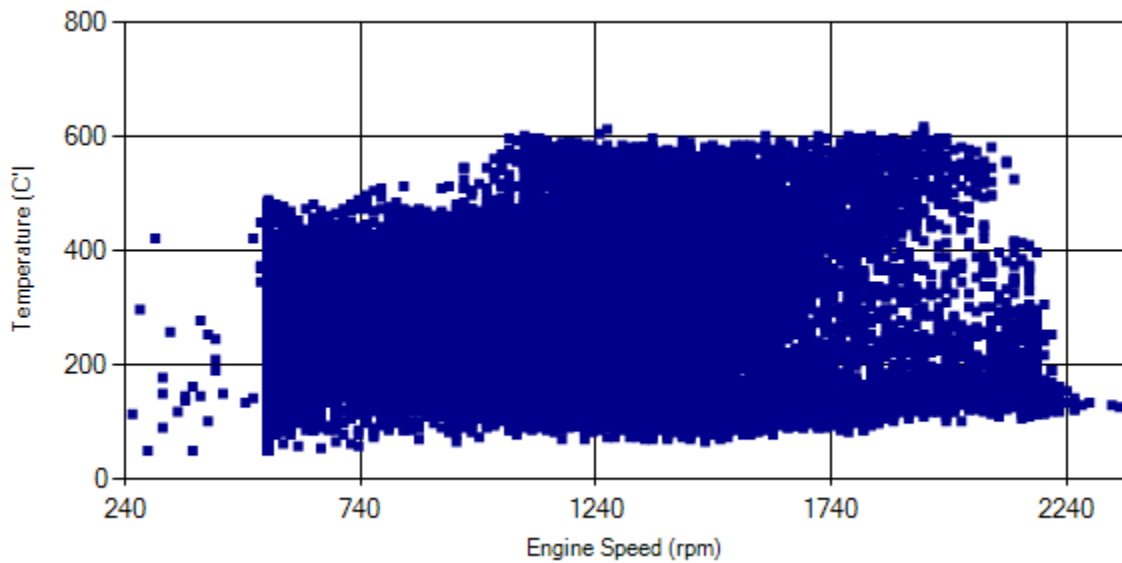## Temperature-Engine Speed diagrams

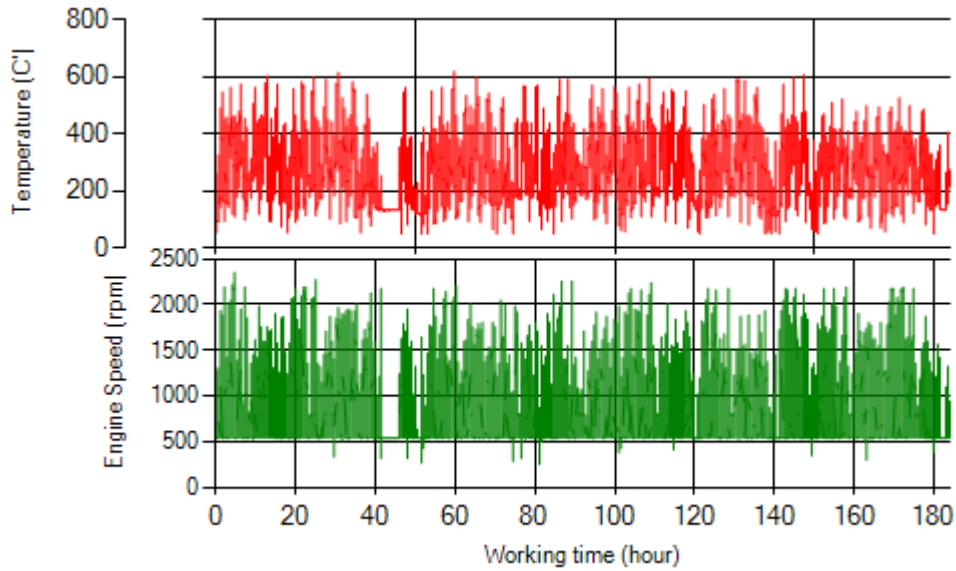*Figure 15- Temperature against engine speed*

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Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in Figure 1, pressure above 200 couldn't be observed and only 0.27% of total working time preesure is above 150mbar.
- Figure 2 displays flow temperature before the DPF. It can be obviously observed that 13% of total working time temperature is above 400 ℃ and 21% above 350℃. This high temperature distribution is one of the important factors for filter excellent operation during the period.

Filter operation status	Excellent ■ Good ☐ Maintenance required ☐ Failed☐