Overall Information

Table1- Overall Information

Vehicle plate number	33637 (34119)
CPK data logger number	LN: 001492, DN: 1933, Sim +989210000000
Bus line	Number 2 (west to east bus line)
Bus Terminals	Khavaran Bus Terminal - Western Bus Terminal
Total path distance	19 km
DPF producer company	Dinex_02 (Passive system with FBC)
Installation date	2/Jun/2015
Report period	3/Jun/2015 – 17/Jun/2015 (fifteen days)
K value – DPF's upstream	1.9 $[m^{-1}]$
K value – DPF's downstream	0.09 $[m^{-1}]$

Temperature, Pressure and Engine Speed Overview

Table 2- Mean values

Mean temperature[1](C)	Mean pressure(mbar)	Mean engine speed(rpm)
249.58	48.46	771.60

Table 3- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
634-50	660-0	2112-96

[1] - Flow temperature (DPF's upstream)

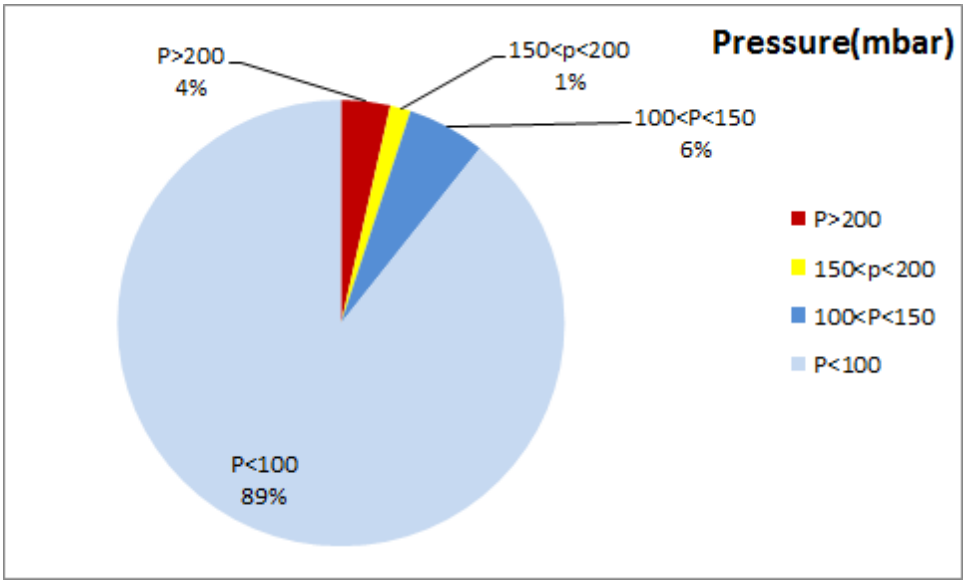

Figure 1- Pressure distribution over the working hours (after DPF installation)

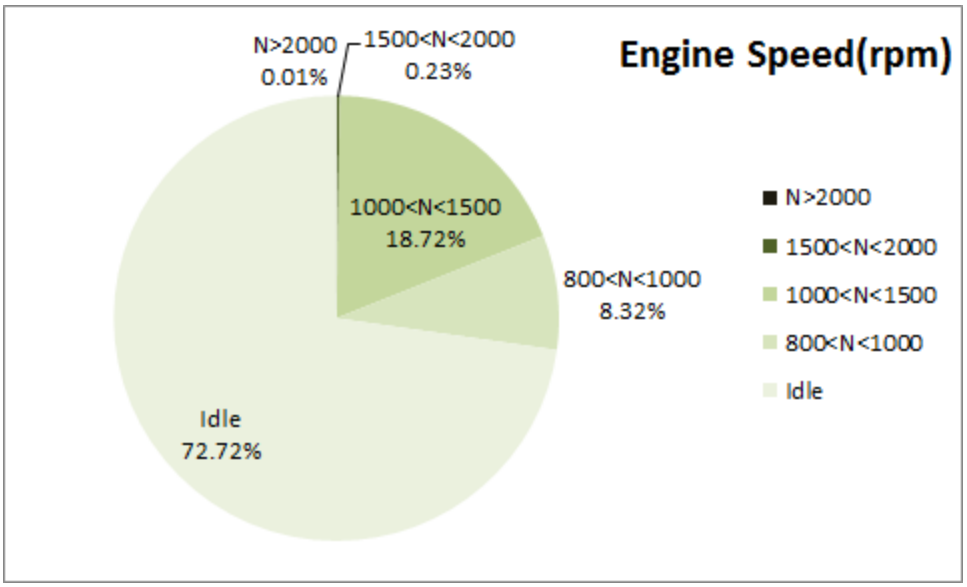

Figure 2- Engine speed distribution over the working hours

Notice: with using bus cooler system, idle rpm increase compare with working times without using ventilation system. So during hot months of year 800 rpm is considered as upper limit for idle engine speed.

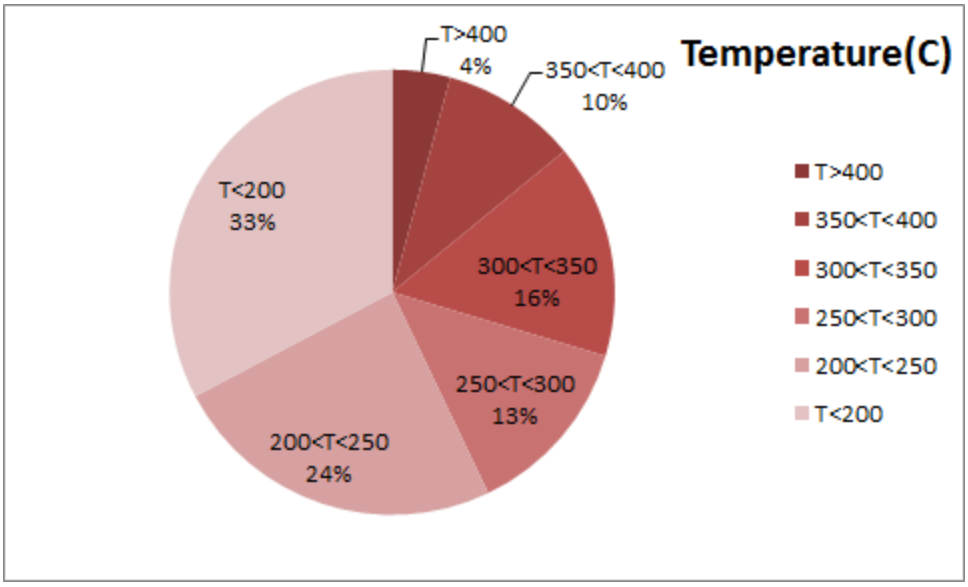

Figure 3-Temperature[2] distribution over the working hours (after DPF installation)

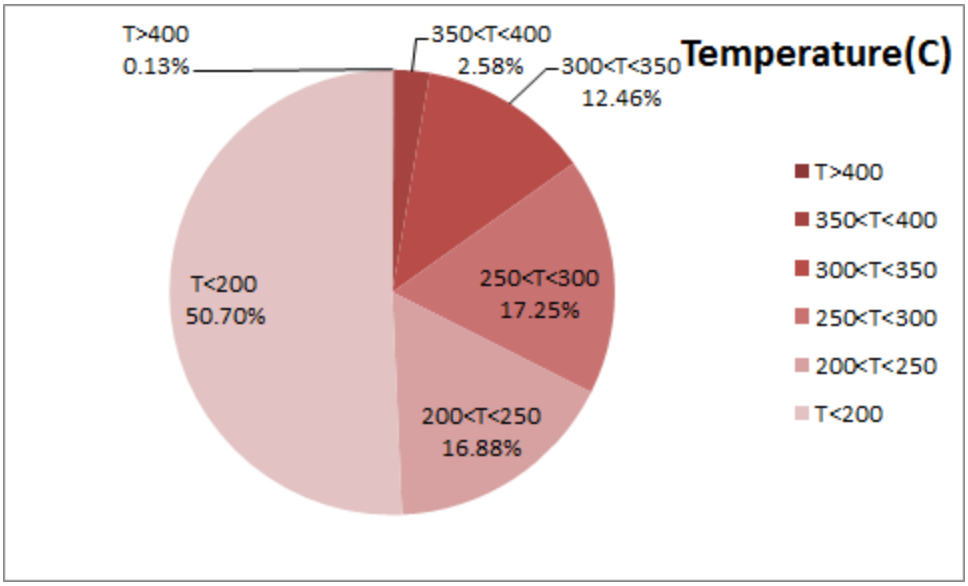

Figure 4- Temperature distribution over the working hours (before DPF installation)

[2] - Flow temperature (DPF's upstream)

Detailed Pressure Analysis

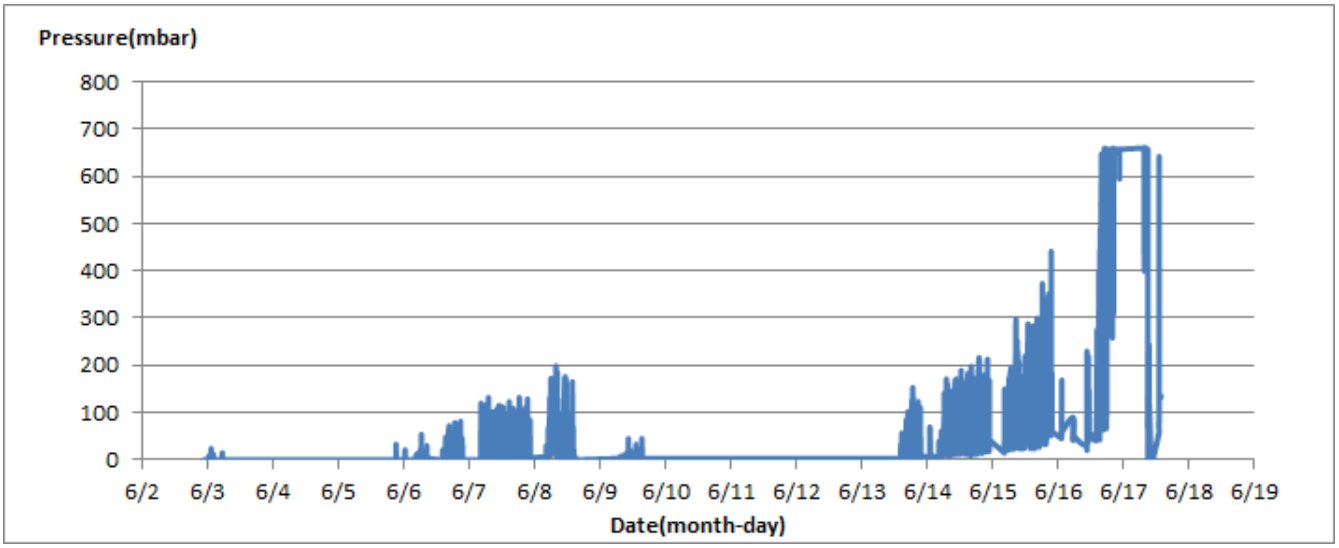

Figure 5- Pressure distribution over the fifteen days

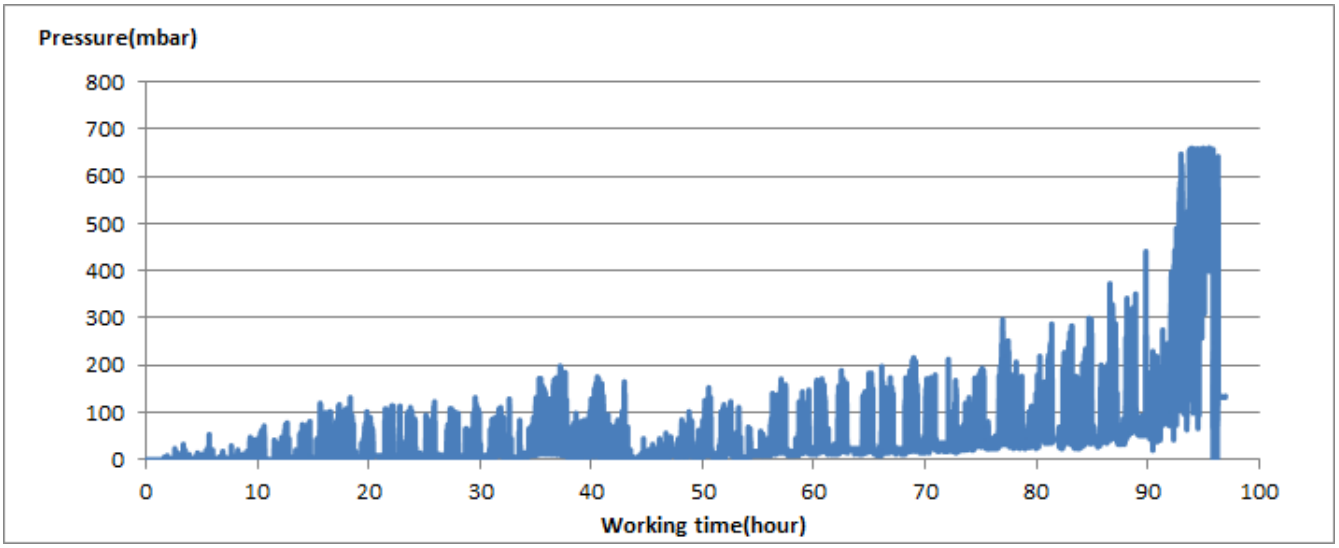

Figure 6- Pressure vs. working hours

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.

Detailed Temperature Analysis

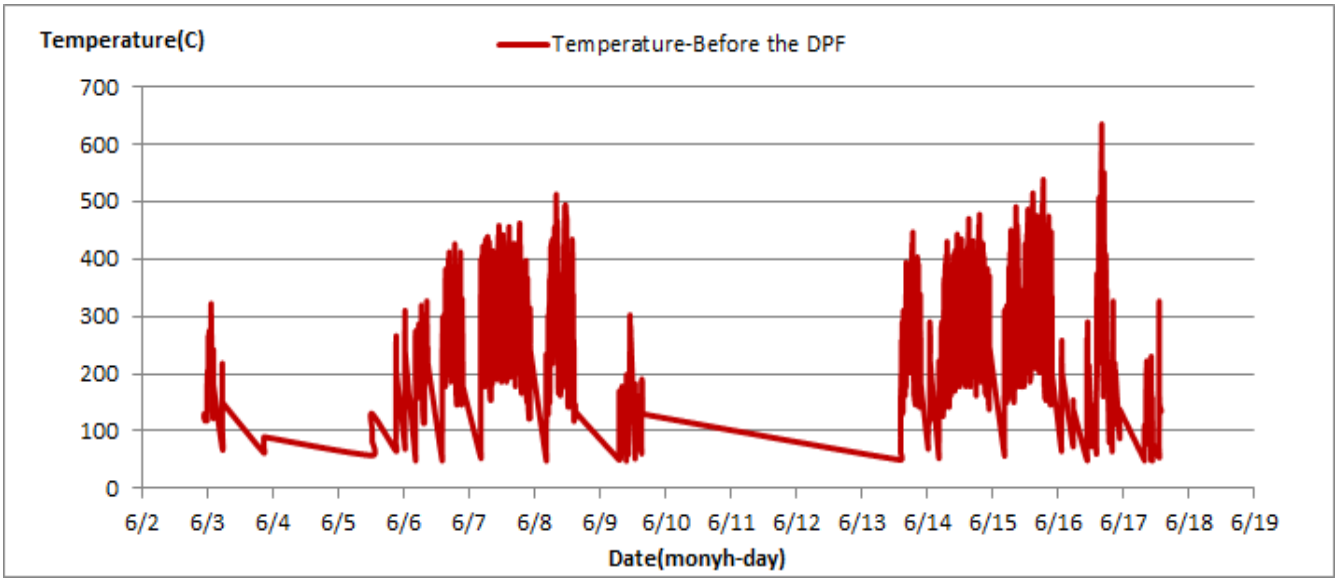

Figure 7- Temperature distribution over the fifteen days

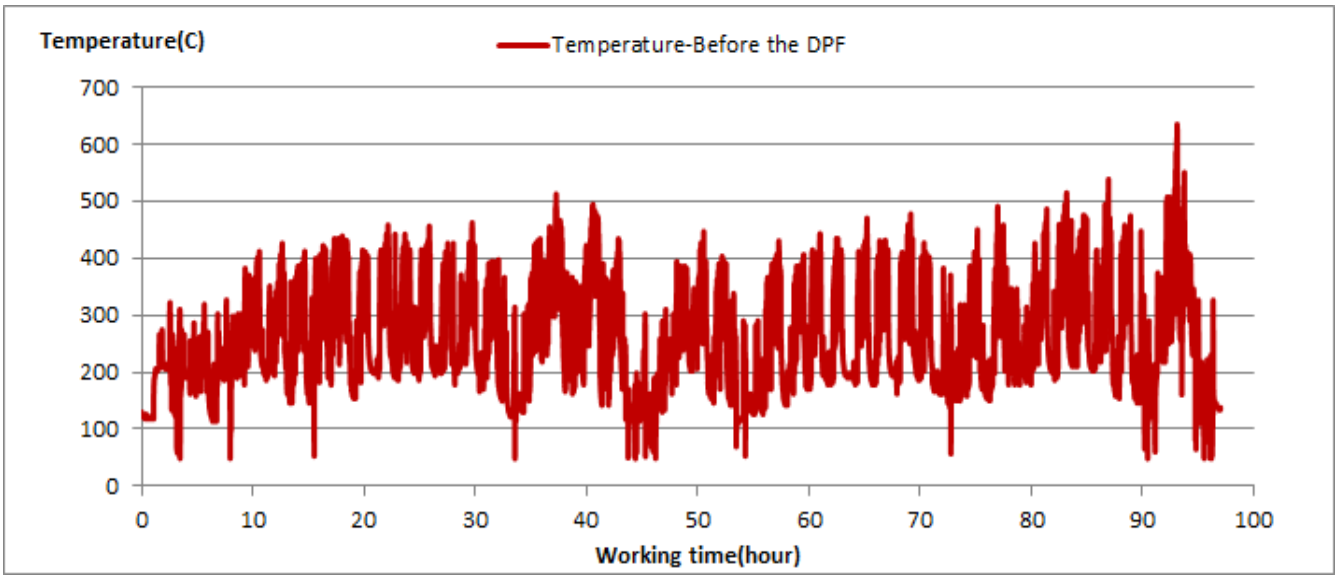

Figure 8- Temperature vs. working hours

Pressure-Engine Speed diagrams

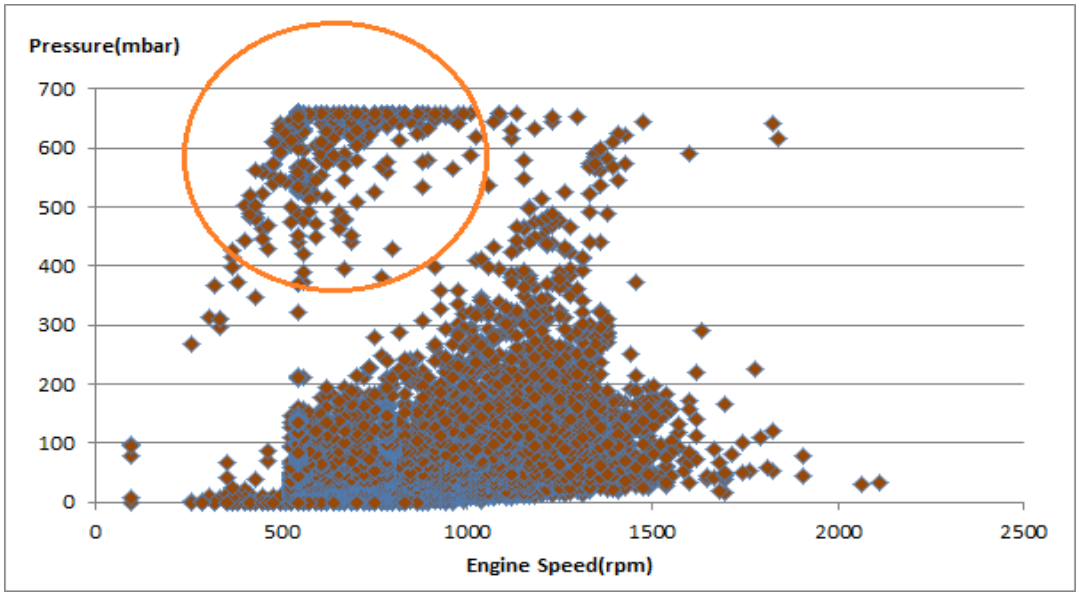

Figure 9- Pressure against engine speed

Filter Operation Analysis

- As depicted in Figure 1, 4% of total working time pressure is above 200 mbar and pressure above 600 mbar can be seen during this period.
- Figure 3 displays flow temperature distribution for DPF's upstream. It can be obviously observed that 4 % of total working time, temperature is above 400°C. Considering Figure 3 it can be obtained that, high temperature distribution in figure 2 was the result of high backpressure. So this deceptive temperature distribution can't guarantee passive filter operation.
- The signed area in Figure 9 is a good reason to claim that this DPF need cleaning.
- Considering low additive dosing value for this period, cleaning and testing this system with more additive dosing can be valuable test.

Note:	Other parameters like additive consumption system and engine operation were checked.
Filter operation status	Excellent ☐ Good ☐ Maintenance required ■ Failed☐