Overall Information

Table1- Overall Information

Vehicle plate number	33572 (28958)
CPK data logger number	LN: 001521, DN: 1995, Sim Number +989218469643
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	HJS_03 (active system with FBC – electrical heater)
Installation date	19/Feb/2015
Report period	01/Feb/2016 – 15/Feb/2016 (fifteen days)
K value - DPF upstream	1.85 [1/m]
K value – DPF downstream	0.02 [1/m]

Table 2- DPF Maintenance History

Filter maintenance date	DPF was cleaned on Oct 5th for the first time. The second cleaning was done on Dec 19th.
Dosing status	Dosing value has been kept constant from installation date until now.

Table 3- Fuel and Additive Consumption Information

Bus mileage (from DPF installation date)	49888 km
Bus mileage over the period	2205 km
Working days over the period	13 days
Stop days	2 days
Data logger working days	13 days
Working hours over the period	169 hours 28 minutes
Average working hours per day (including stop days)	11 hours 18 minutes
Bus average speed	13.01 km/hr
idle speed time to all working time ration	47.92 %
Total Bus fuel consumption over the period	1389 lit
Fuel consumption per hour	8.2 lit/hr
Average fuel consumption	0.63 lit/km
Total Bus additive consumption over the period	0.65 lit
Average additive consumption	295 cc/km
Additive consumption to fuel ration	468 cc/1000lit

Temperature, Pressure and Engine Speed Overview

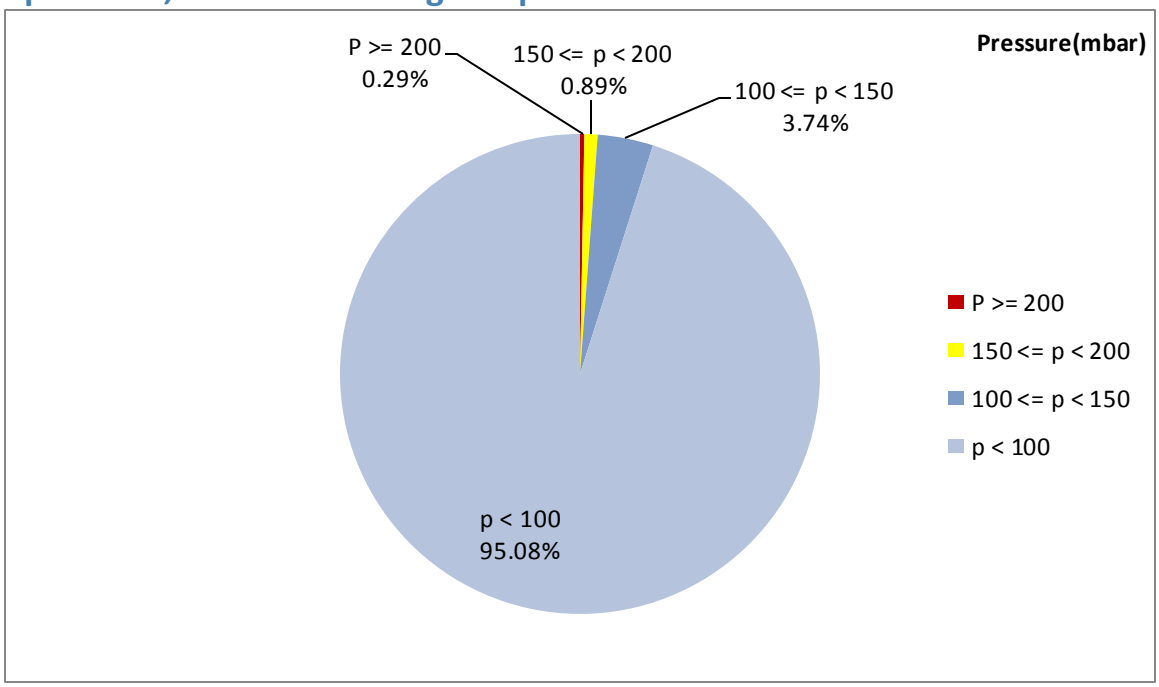

Figure 1- Pressure distribution over the working hours

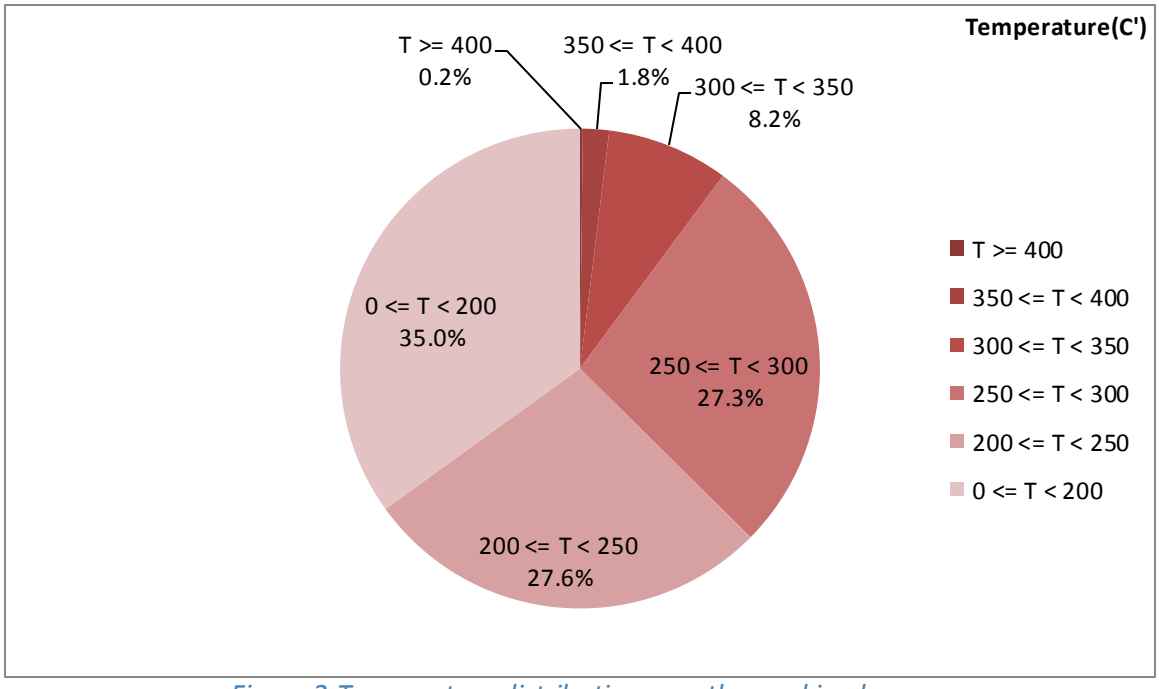

Figure 2-Temperature distribution over the working hours

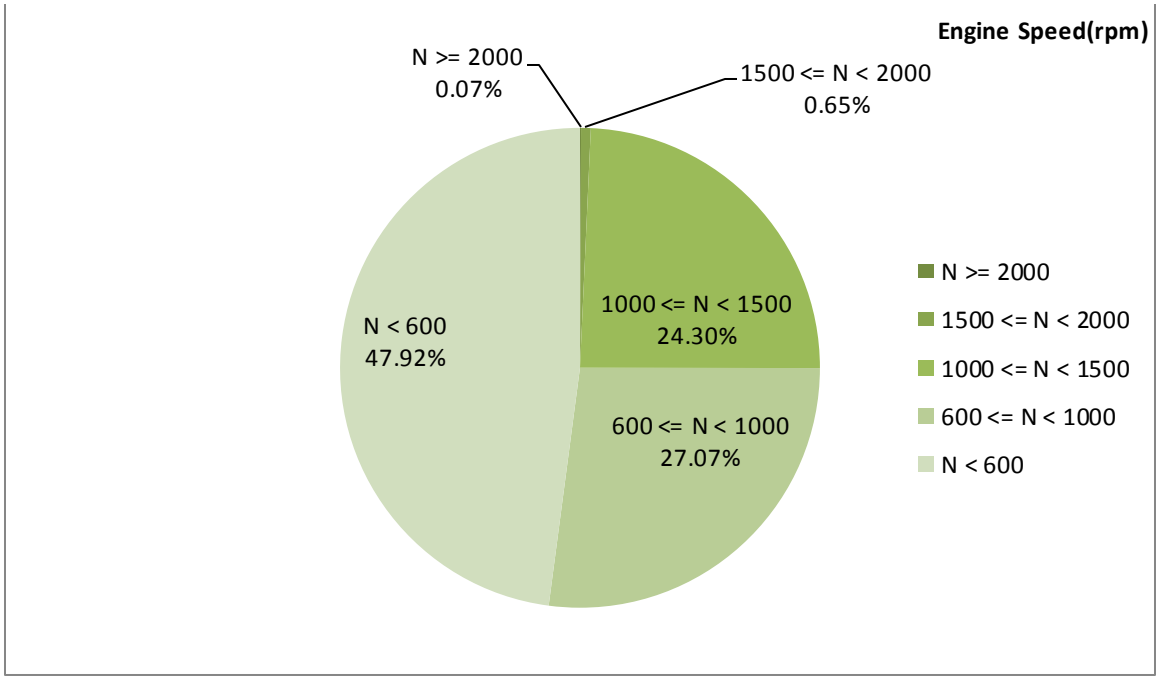

Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
223.29	31.62	767

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
264.33	53.77	969

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
450-50	342-0	2128-464

Detailed Pressure Analysis

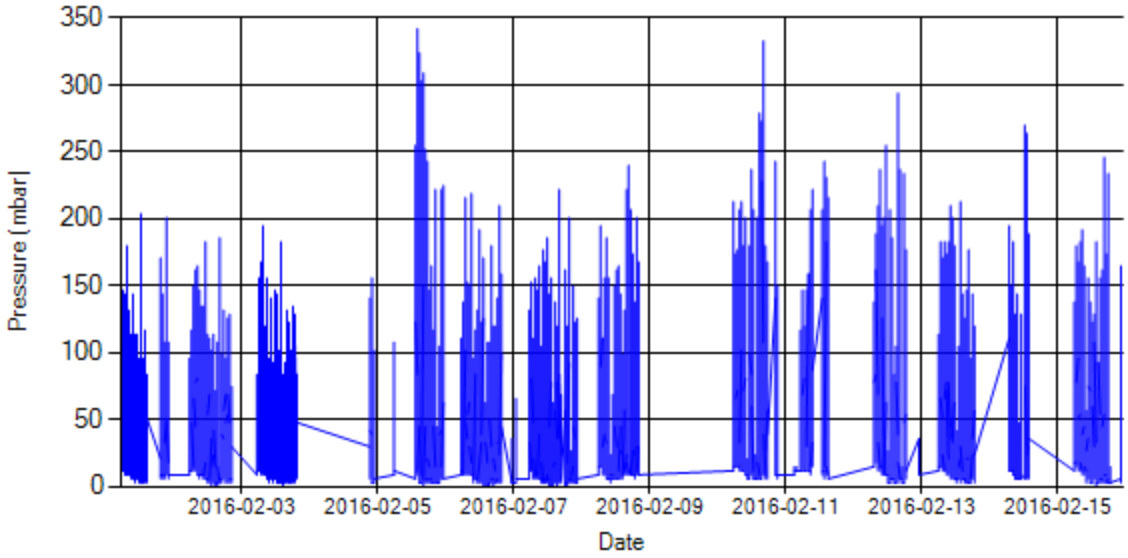

Figure 4- Pressure distribution over the period

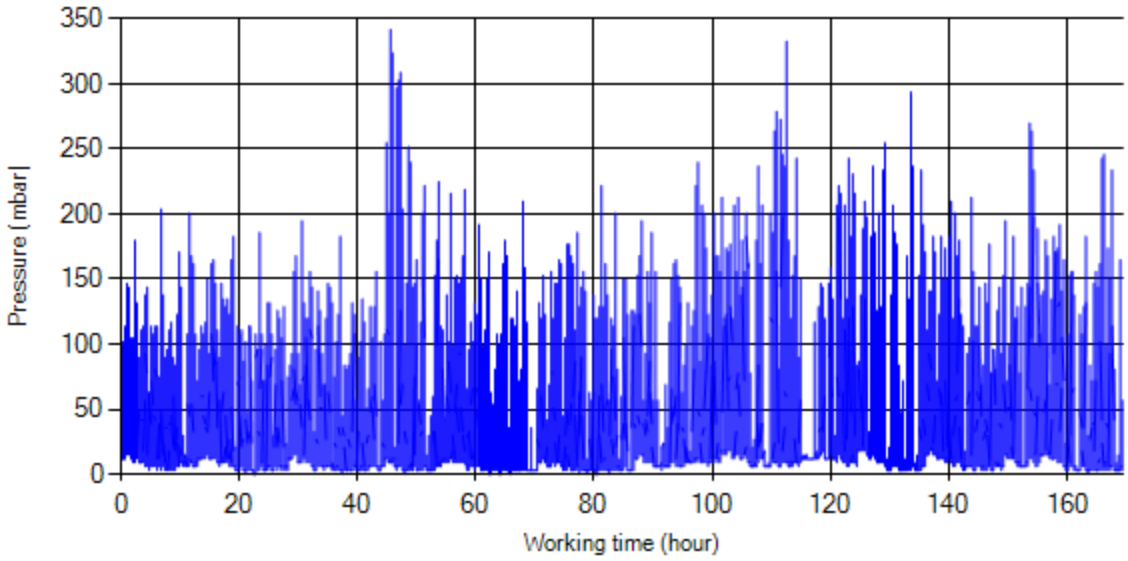

Figure 5- Pressure vs. working hours

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.

Detailed Temperature Analysis

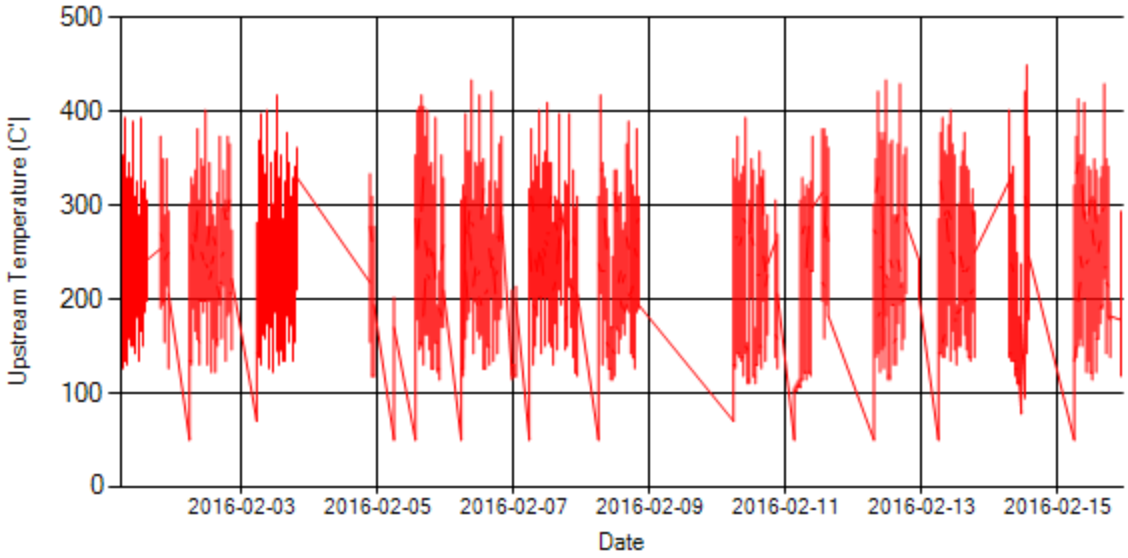

Figure 6- Temperature distribution over the period

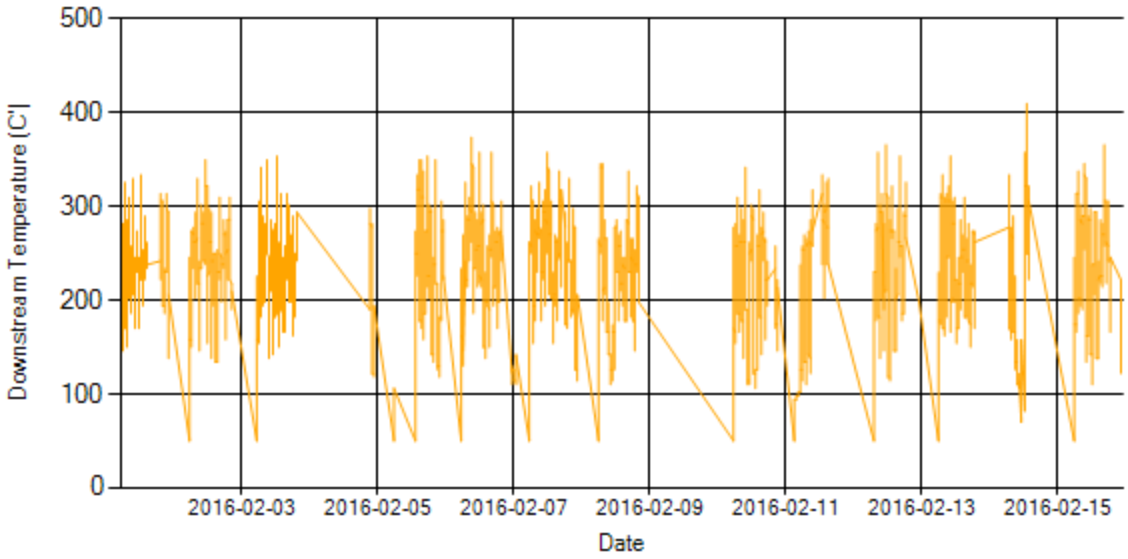

Figure 7- Temperature distribution over the period

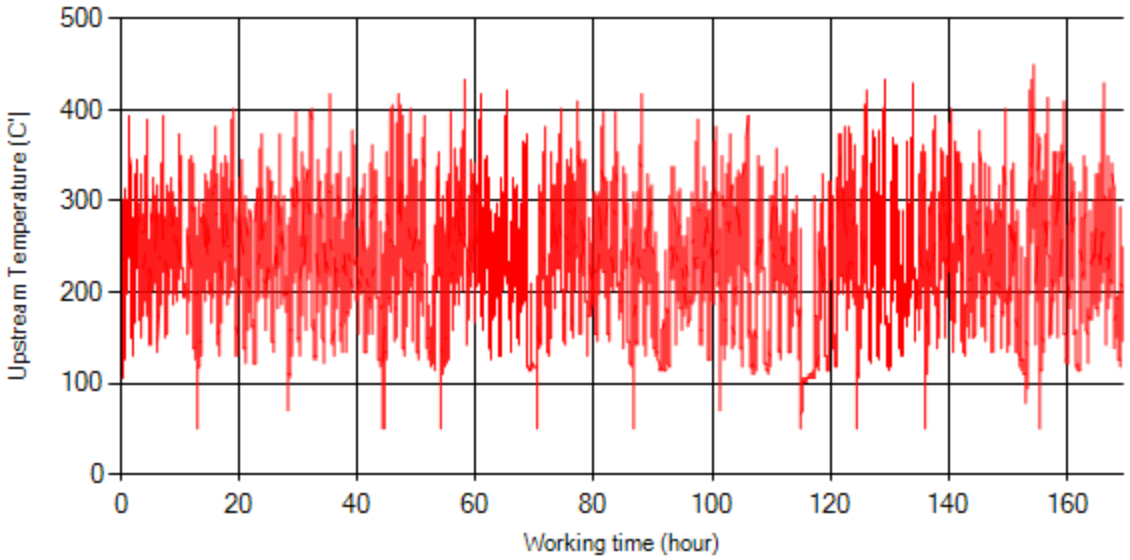

Figure 8- Temperature vs. working hours

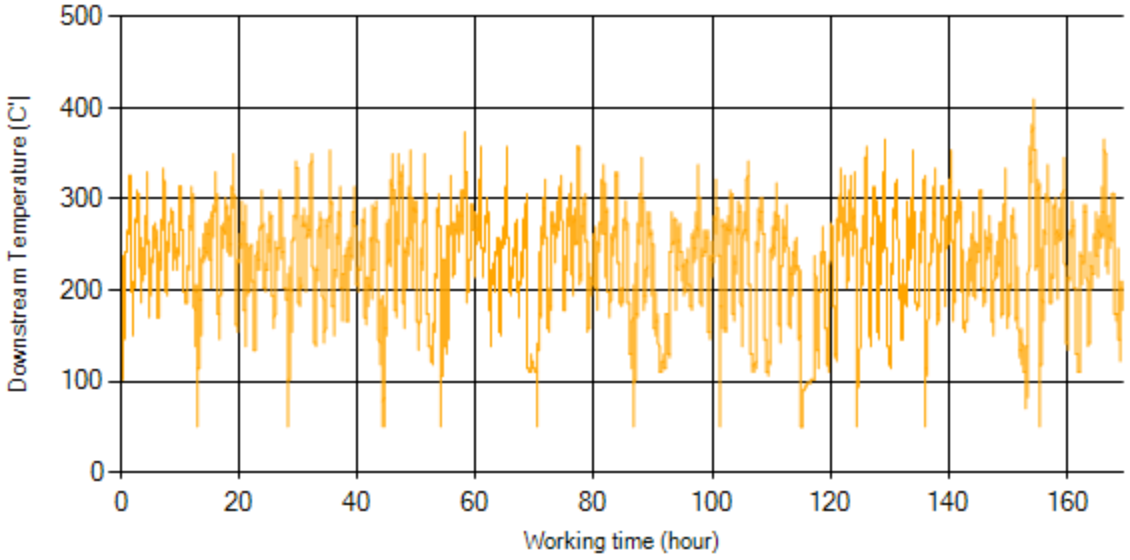

Figure 9- Temperature vs. working hours

Engine Speed Diagrams

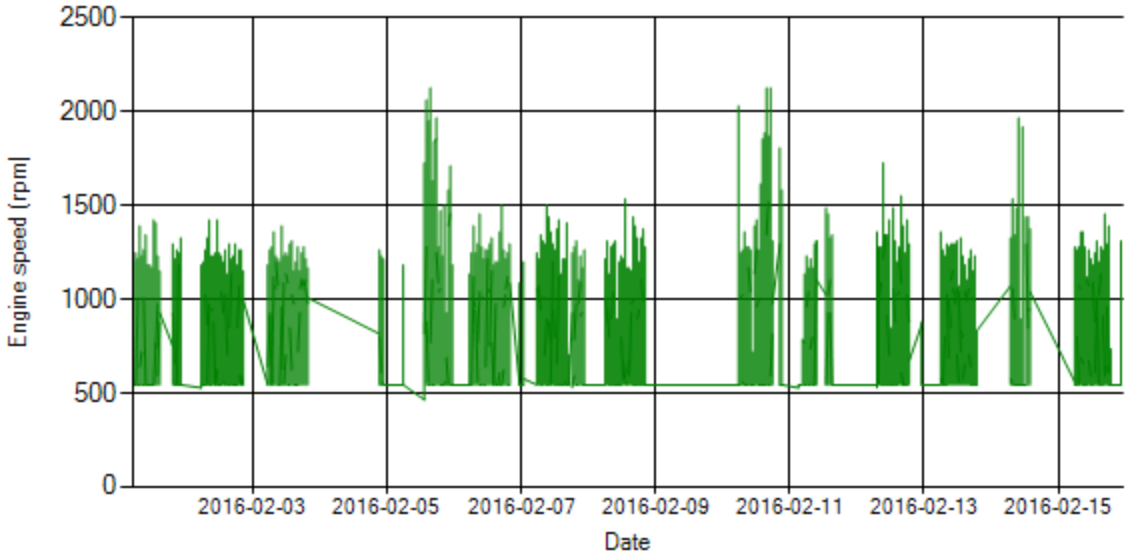

Figure 10- Engine speed distribution over the period

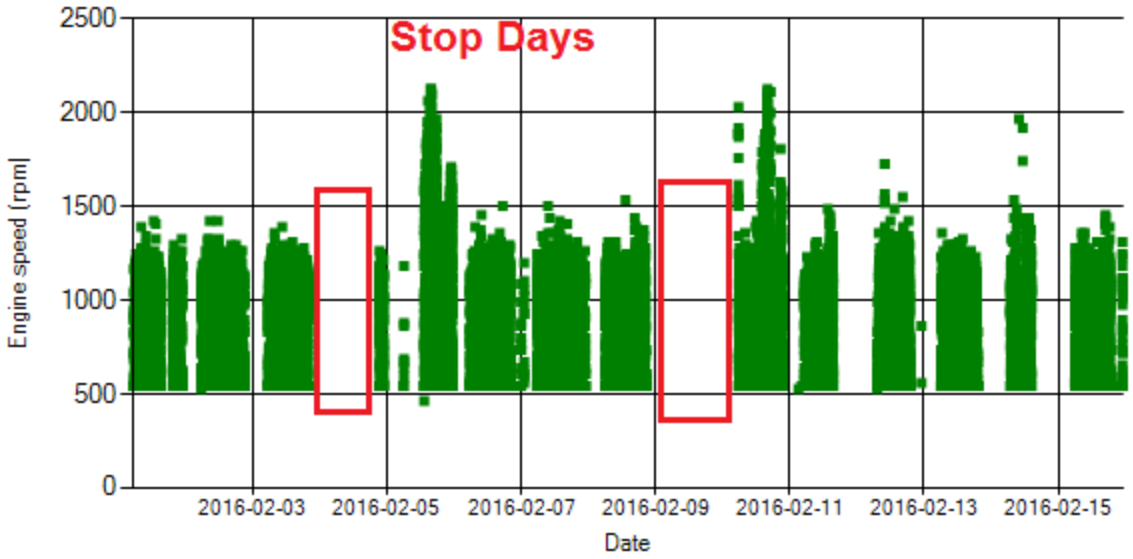

Figure 11- Engine speed diagram for calculating CPK's working days

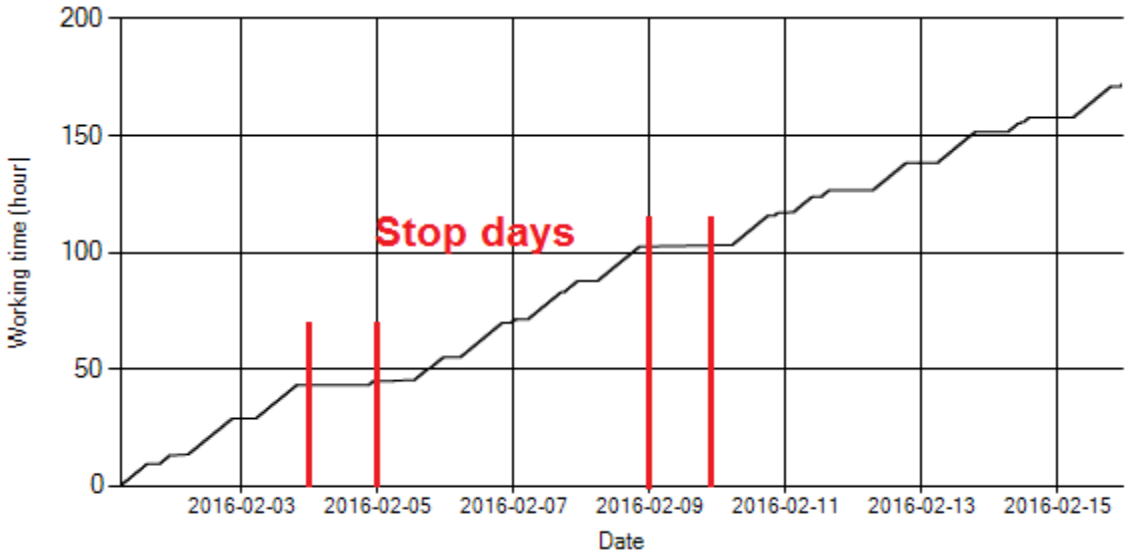

Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data. As depicted in Figure 12, bus was stationary on 4th and 9th of Feb.

Pressure-Engine Speed diagrams

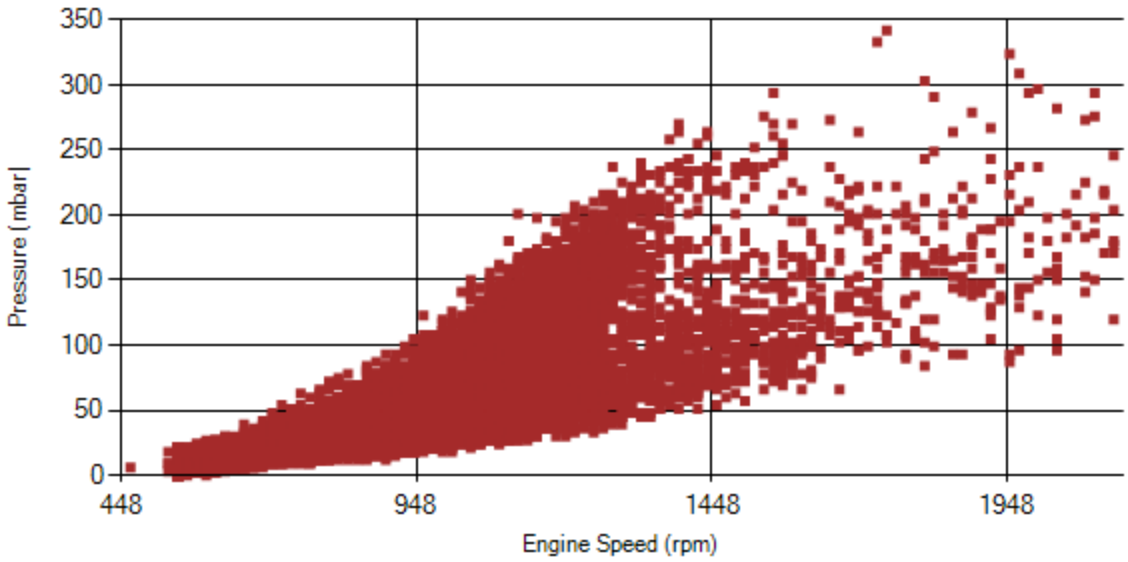

Figure 13- Pressure against engine speed

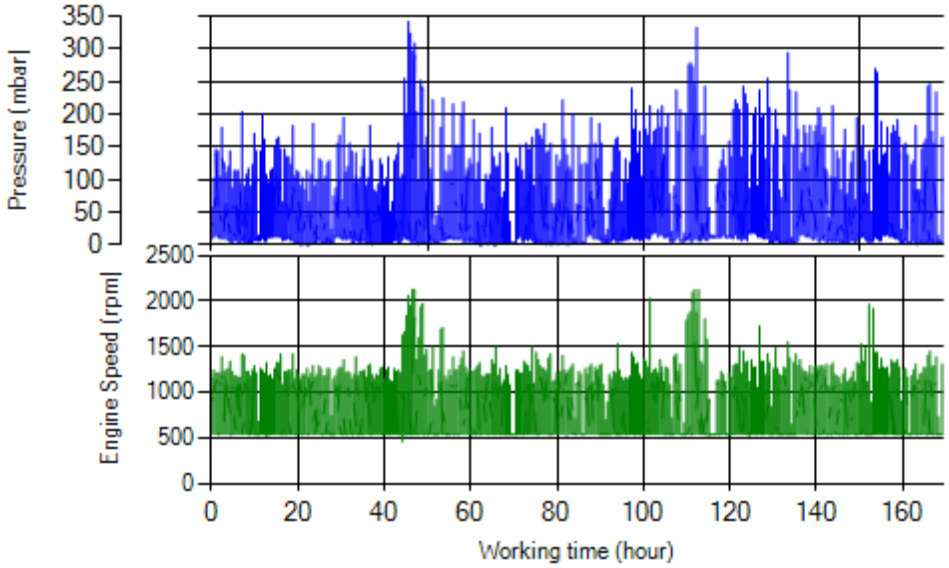

Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

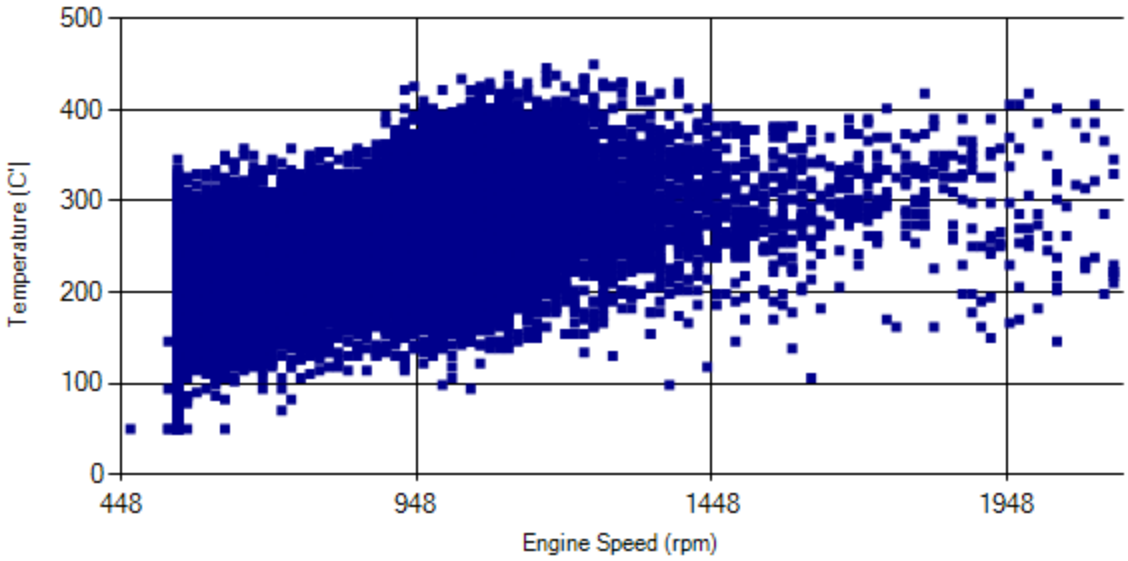

Figure 15- Temperature against engine speed

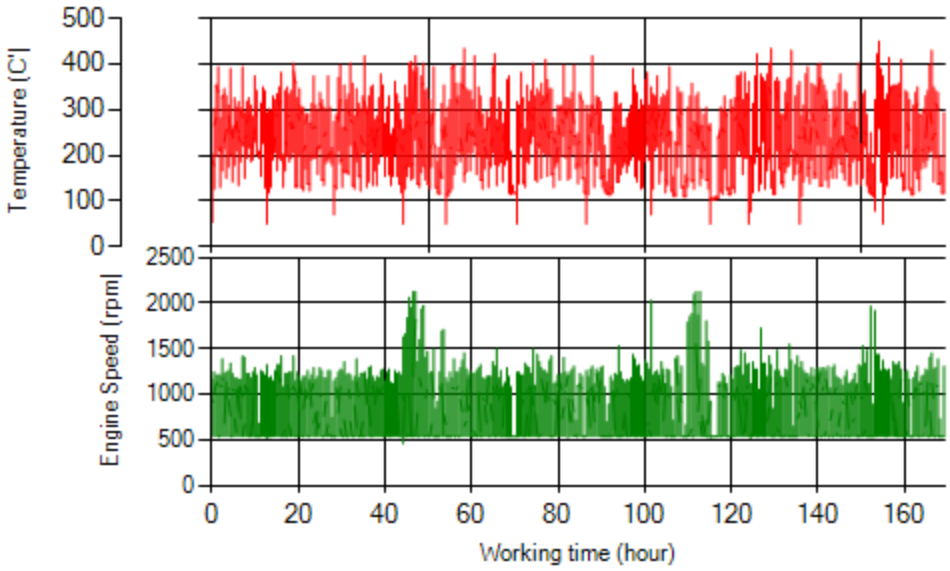

Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in figure 1, 0.29% of total working time pressure is above 200 mbar and 1.18% above 150 mbar during this period.

- Figure 2 displays flow temperature distribution for DPF's upstream. It can be obviously observed only 2% of total working time temperature is above 350°C, so it could be concluded that active regeneration plays important role on working this DPF.

- Pressures above 300 mbar, which were seen on 5th and 11th of Feb, were because of engine full load working. RPM distribution confirmed this claim (pictures 13 and 14).

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