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/Nov/2015 – 30/Nov/2015 (fifteen days)
K value - DPF upstream	1.80 [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.

Table 3- Fuel and Additive Consumption Information

Bus mileage (from DPF installation date)	70679 km
Bus mileage over the period	2923 km
Working days over the period	13 days
Stop days	2 days
Data logger working days	13 days
Working hours over the period	179 hours 56 minutes
Average working hours per day (including stop days)	11 hours 60 minutes
Bus average speed	16.24 km/hr
idle speed time to all working time ration	51.77 %
Total Bus fuel consumption over the period	1600 lit
Fuel consumption per hour	8.89 lit/hr
Average fuel consumption	0.55 lit/km
Total Bus additive consumption over the period	0.7 lit
Average additive consumption	239 cc/km
Additive consumption to fuel ration	438 cc/1000lit

Temperature, Pressure and Engine Speed Overview

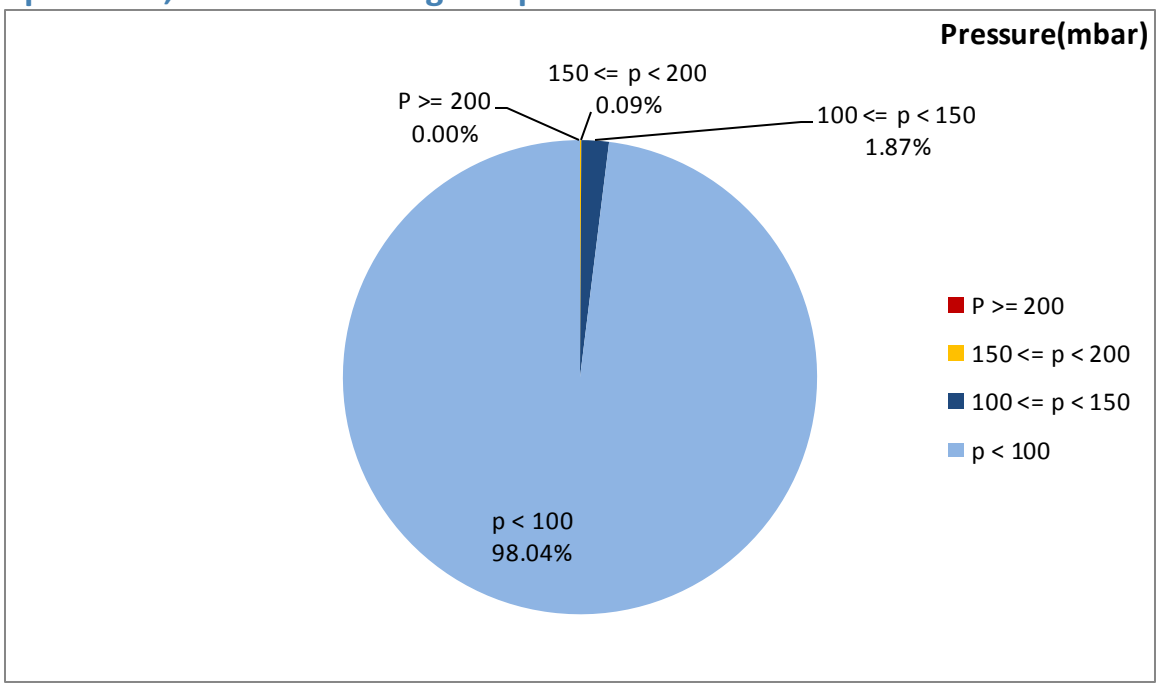

Figure 1- Pressure distribution over the working hours

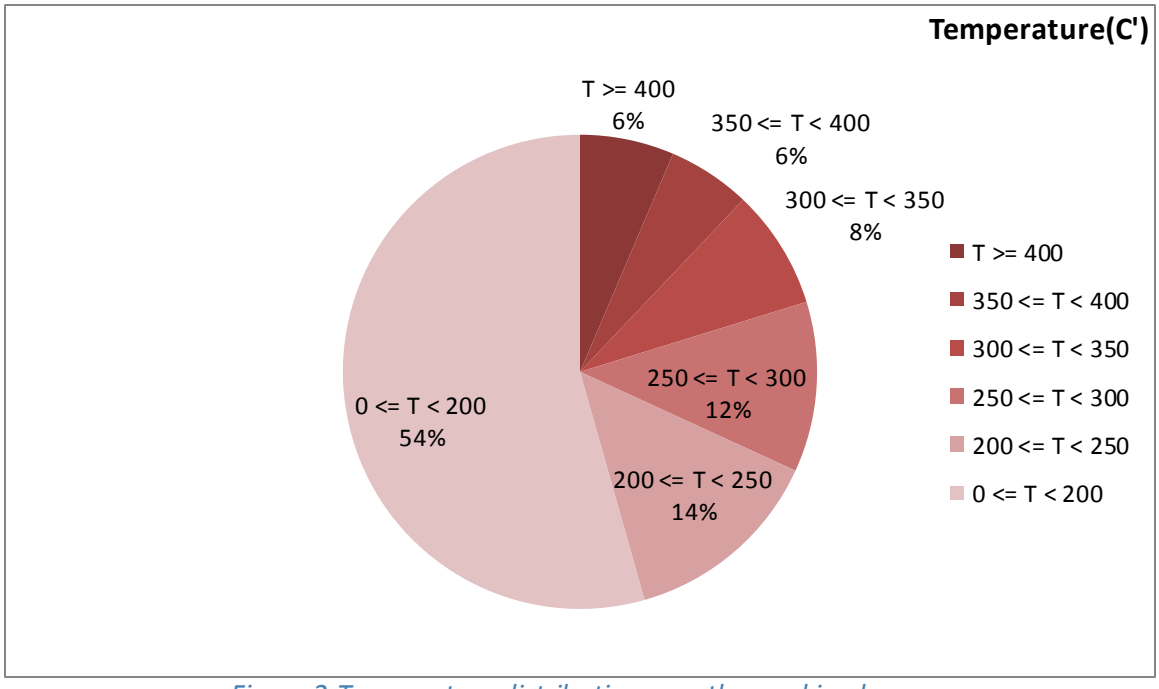

Figure 2-Temperature distribution over the working hours

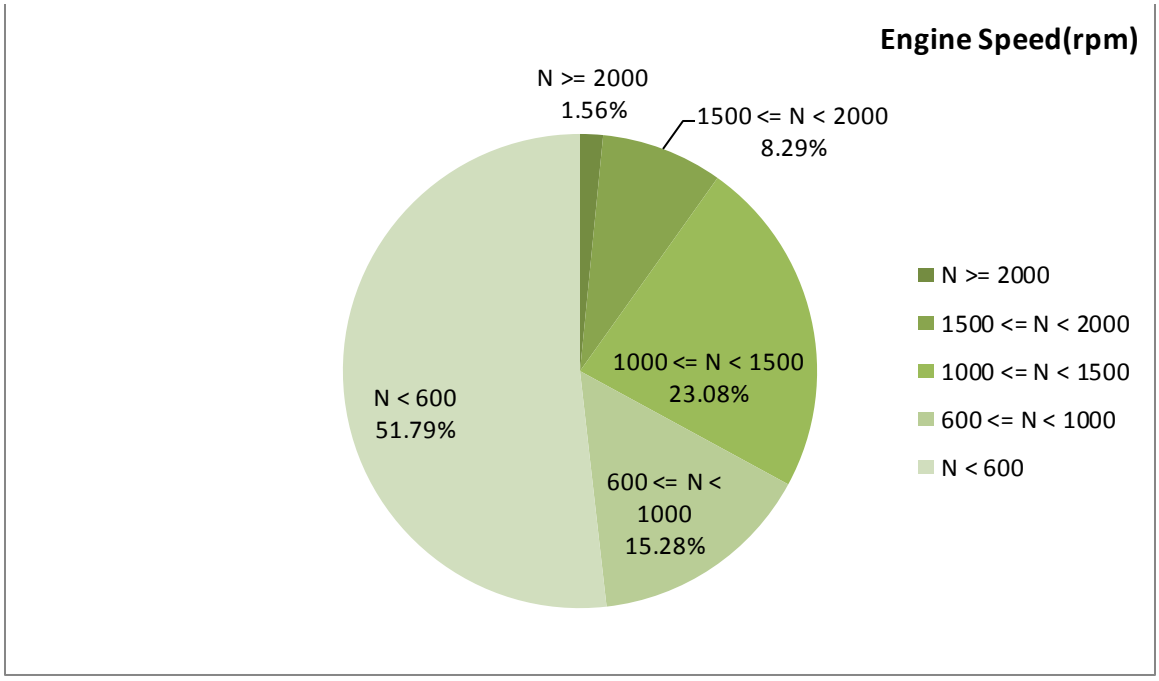

Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
216.96	18.04	860

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
269.5	31.91	1197

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
518-50	171-0	2576-256

Detailed Pressure Analysis

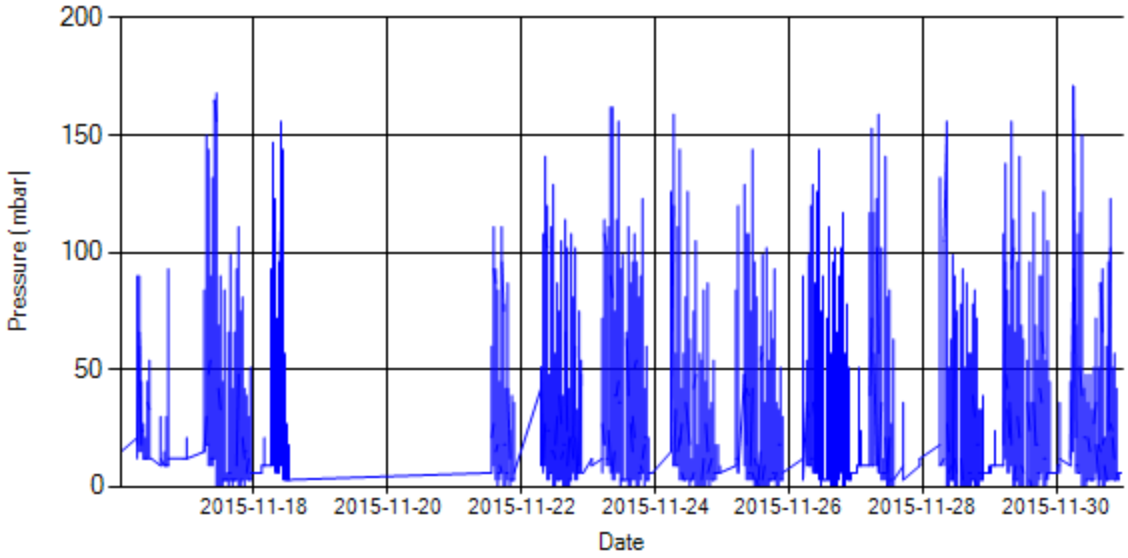

Figure 4- Pressure distribution over the period

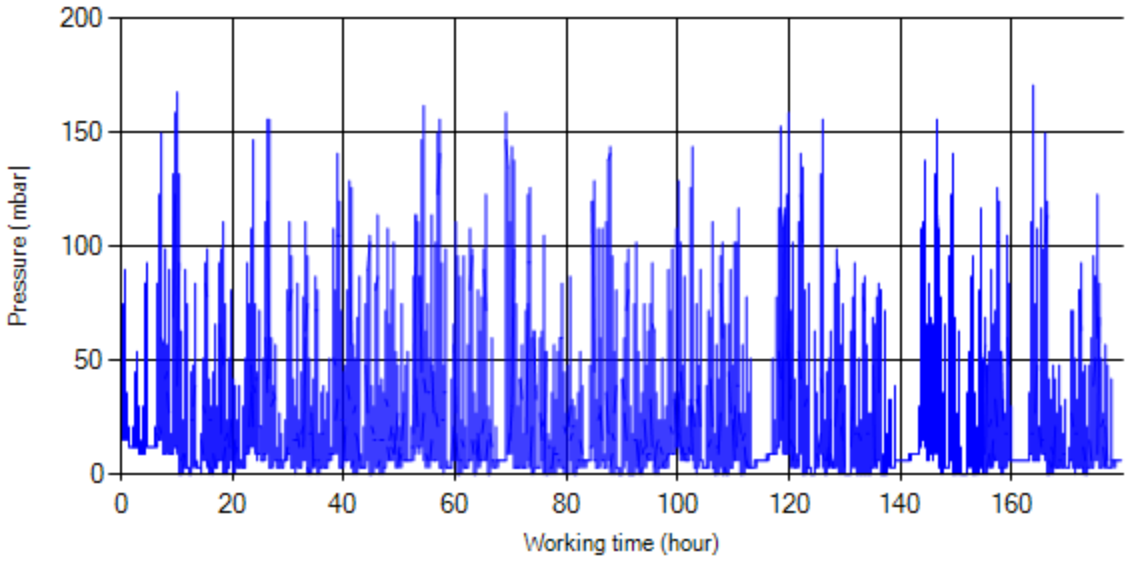

Figure 5- Pressure vs. working hours

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.

Detailed Temperature Analysis

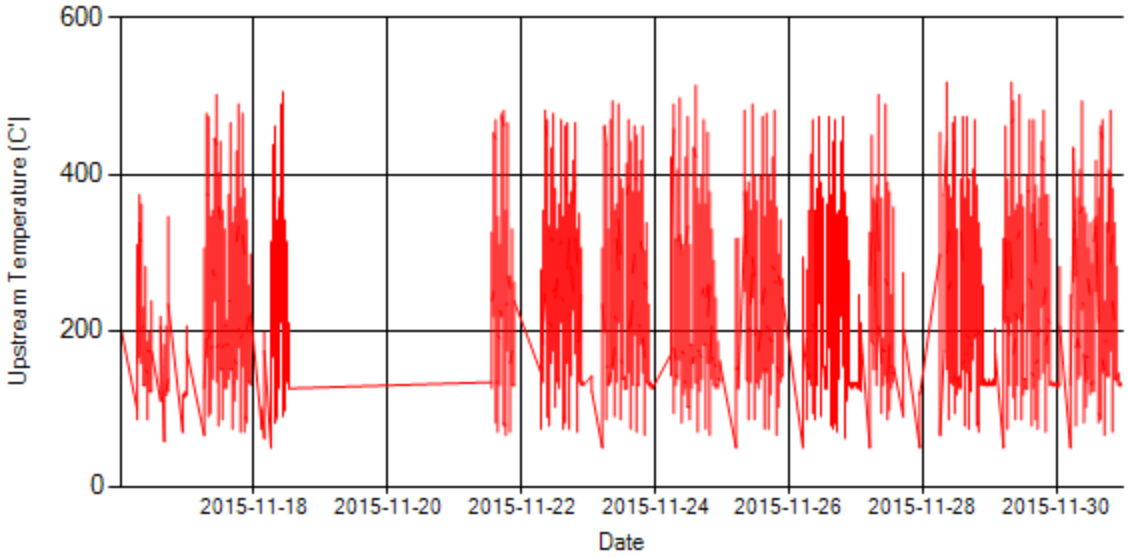

Figure 6- Temperature distribution over the period

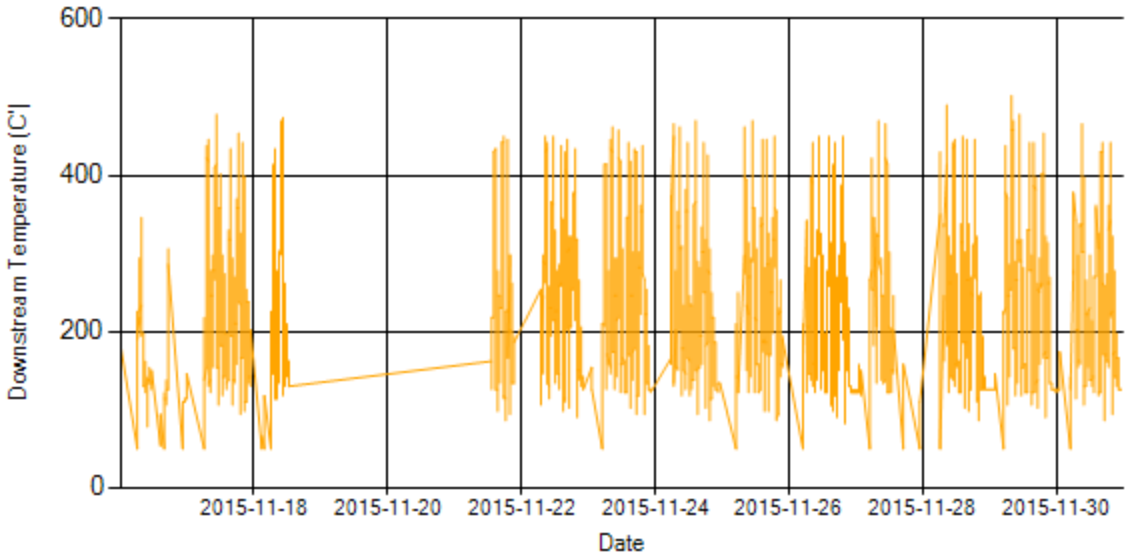

Figure 7- Temperature distribution over the period

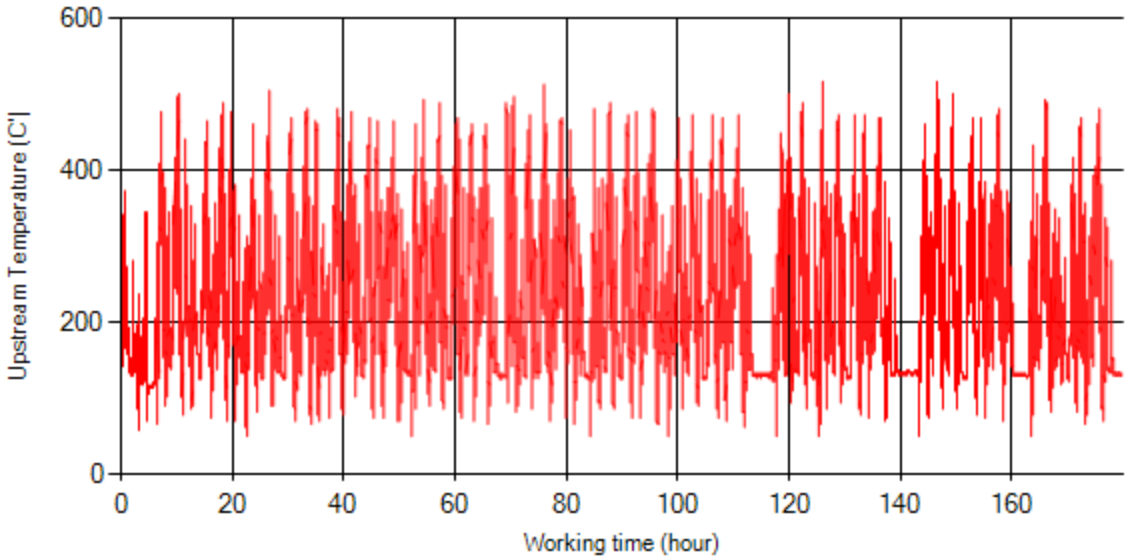

Figure 8- Temperature vs. working hours

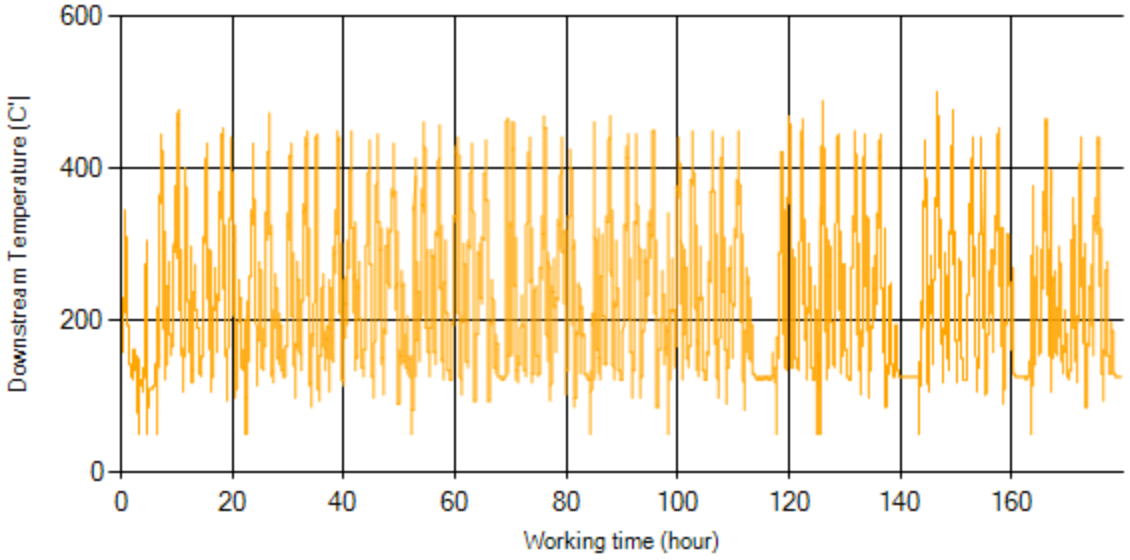

Figure 9- Temperature vs. working hours

Engine Speed Diagrams

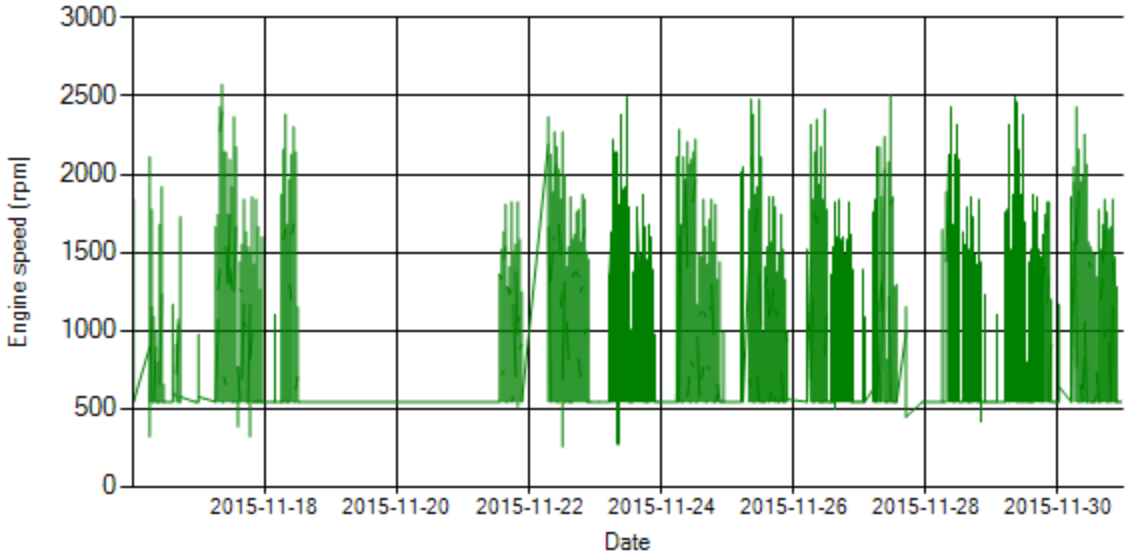

Figure 10- Engine speed distribution over the period

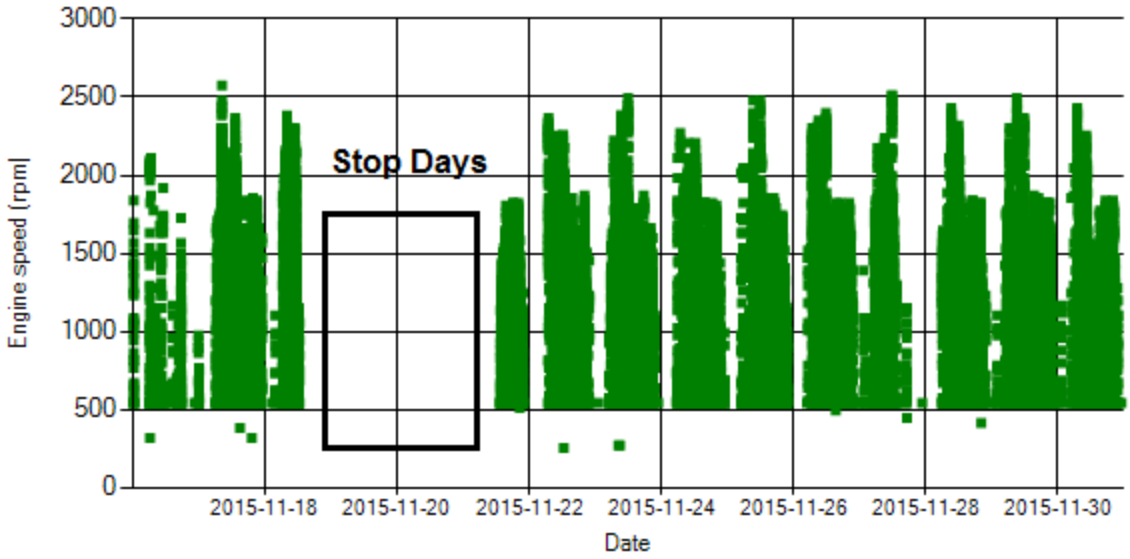

Figure 11- Engine speed diagram for calculating CPK's working days

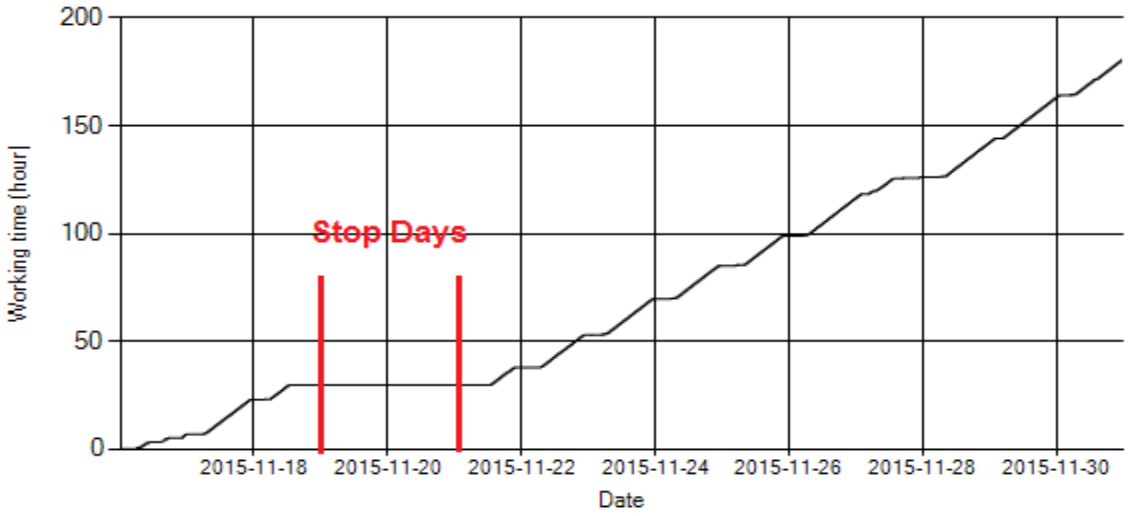

Figure 12- Time diagram for calculating CPK's working days

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

Pressure-Engine Speed diagrams

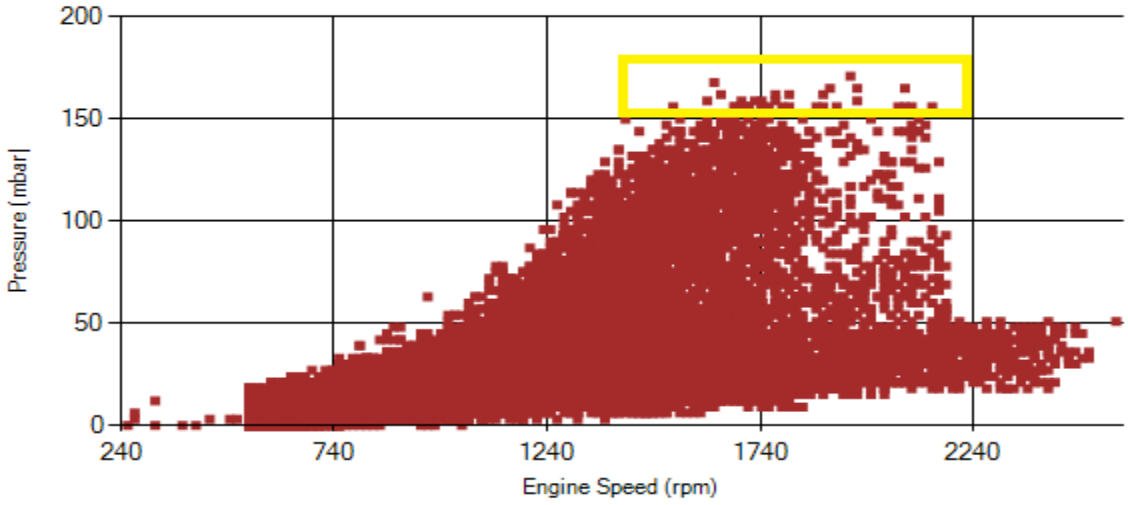

Figure 13- Pressure against engine speed

Notice: Yellow alarm (200>pressure>150) range was indicated in figure 13.

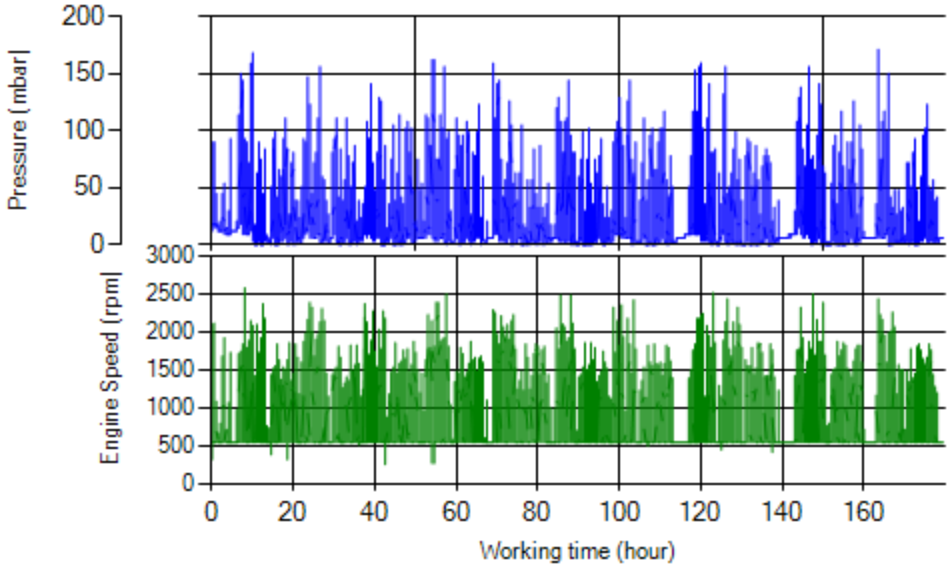

Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

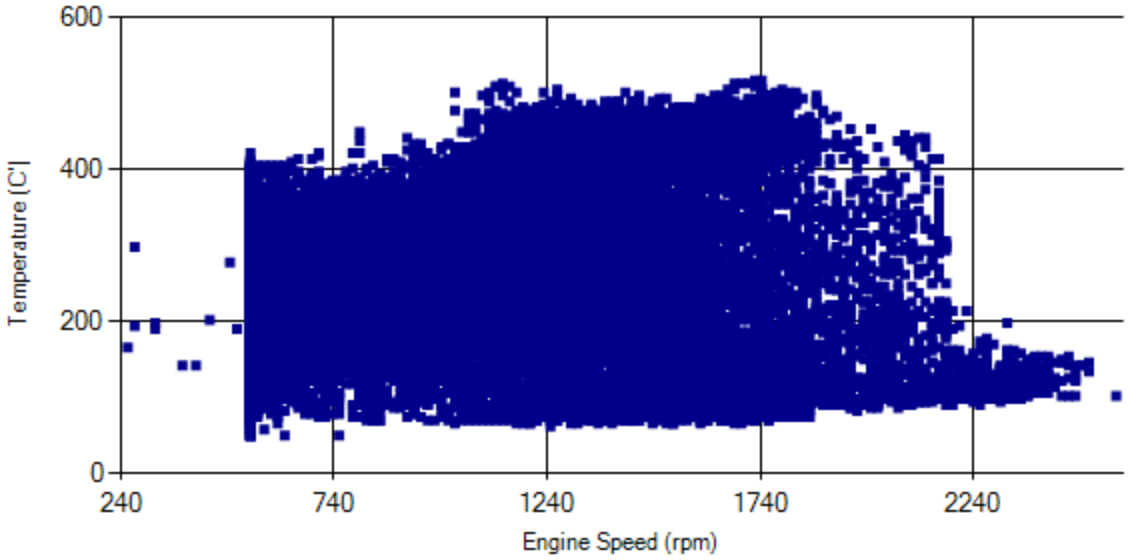

Figure 15- Temperature against engine speed

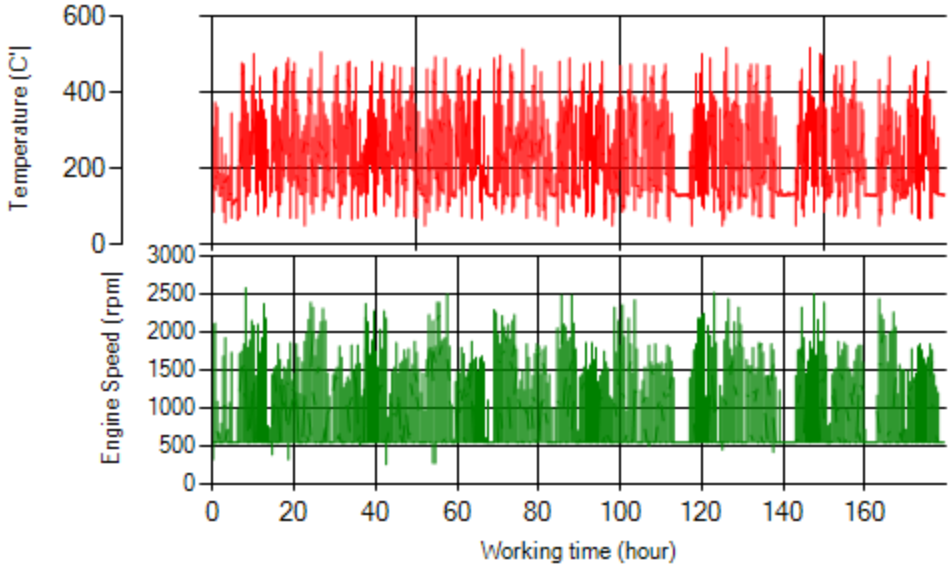

Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in Figure 1, pressure above 200 mbar wasn't observed during this period and only 0.09% of operation time pressure was above 150 mbar.
- Figure 2 displays flow temperature before the DPF. It can be obviously observed that 6% of total working time temperature is above 400 °C and 12% above 350°C.

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