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/Dec/2015 – 31/Dec/2015 (sixteen days)
K value - DPF upstream	1.9 [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)	76117 km
Bus mileage over the period	3411 km
Working days over the period	15 days
Stop days	1 day
Data logger working days	15 days
Working hours over the period	178 hours 25 minutes
Average working hours per day (including stop days)	11 hours 9 minutes
Bus average speed	19.13 km/hr
idle speed time to all working time ration	53.18 %
Total Bus fuel consumption over the period	2100 lit
Fuel consumption per hour	11.76 lit/hr
Average fuel consumption	0.62 lit/km
Total Bus additive consumption over the period	0.9lit
Average additive consumption	263 cc/km
Additive consumption to fuel ration	429 cc/1000lit

Temperature, Pressure and Engine Speed Overview

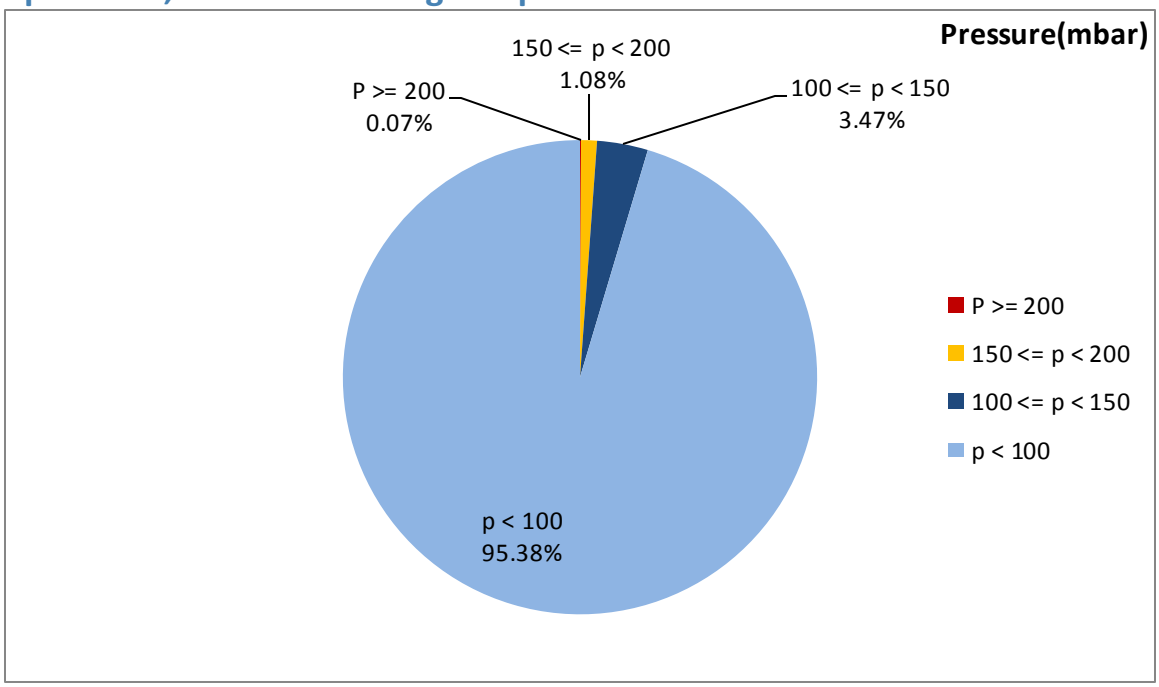

Figure 1- Pressure distribution over the working hours

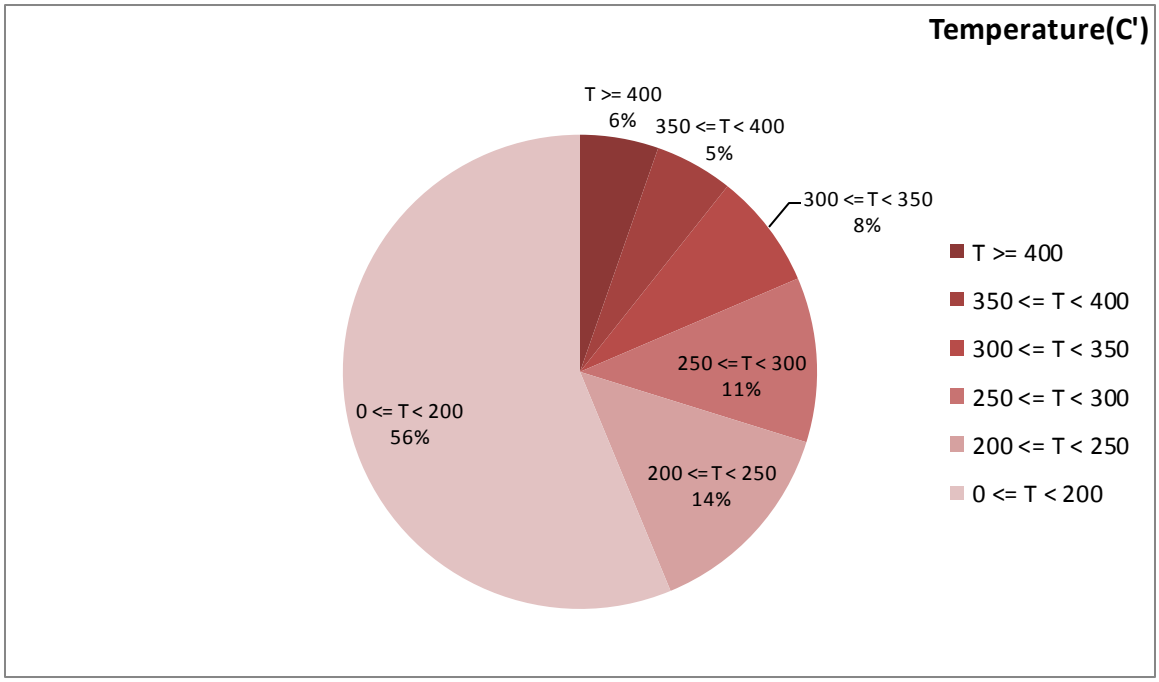

Figure 2-Temperature distribution over the working hours

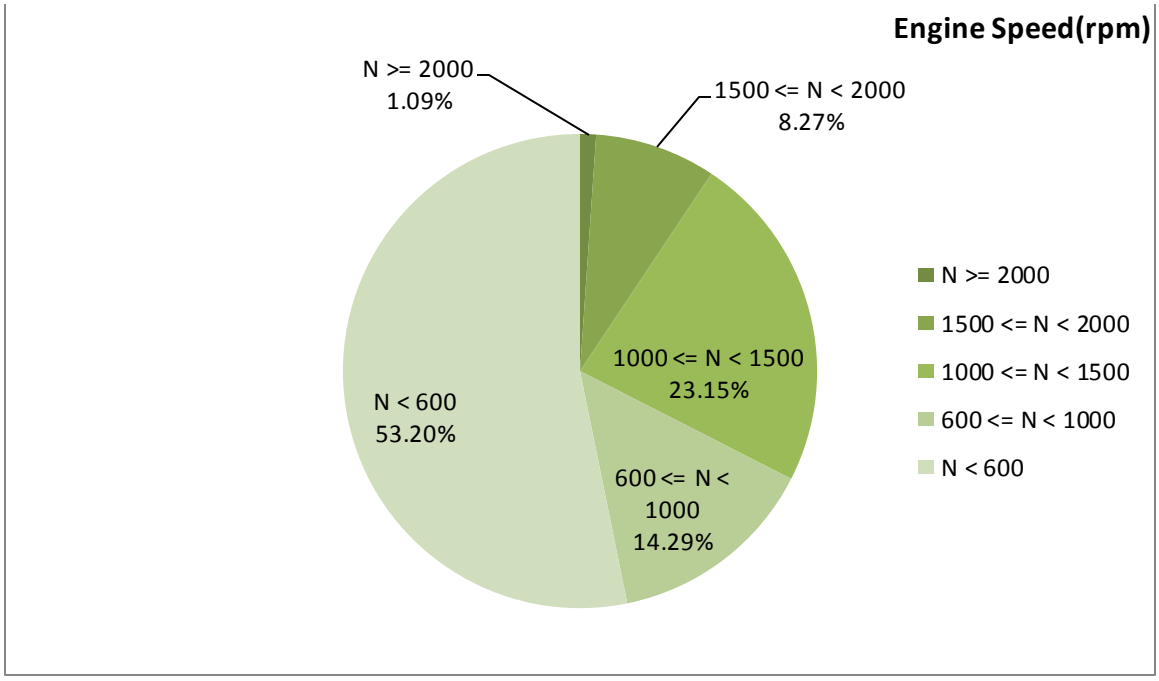

Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
210.08	24.1	848

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
264.81	43.19	1192

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
494-50	234-0	2640-288

Detailed Pressure Analysis

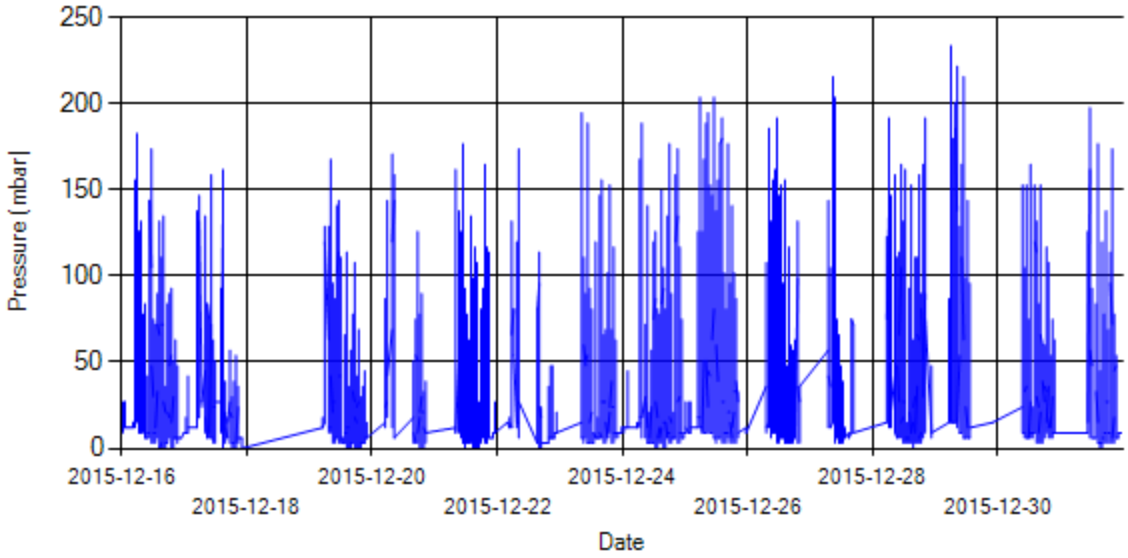

Figure 4- Pressure distribution over the period

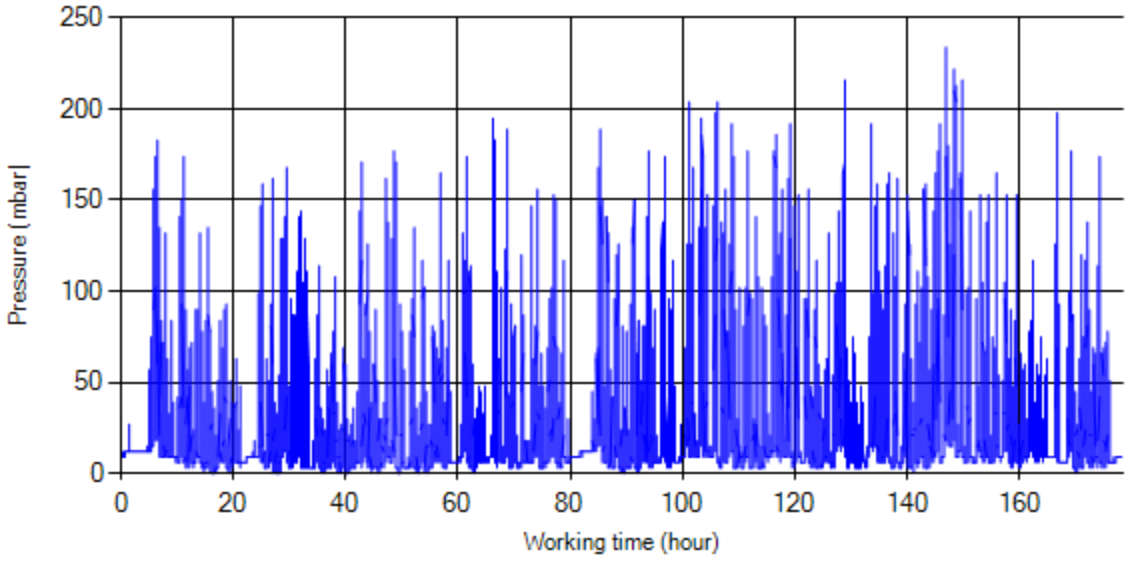

Figure 5- Pressure vs. working hours

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

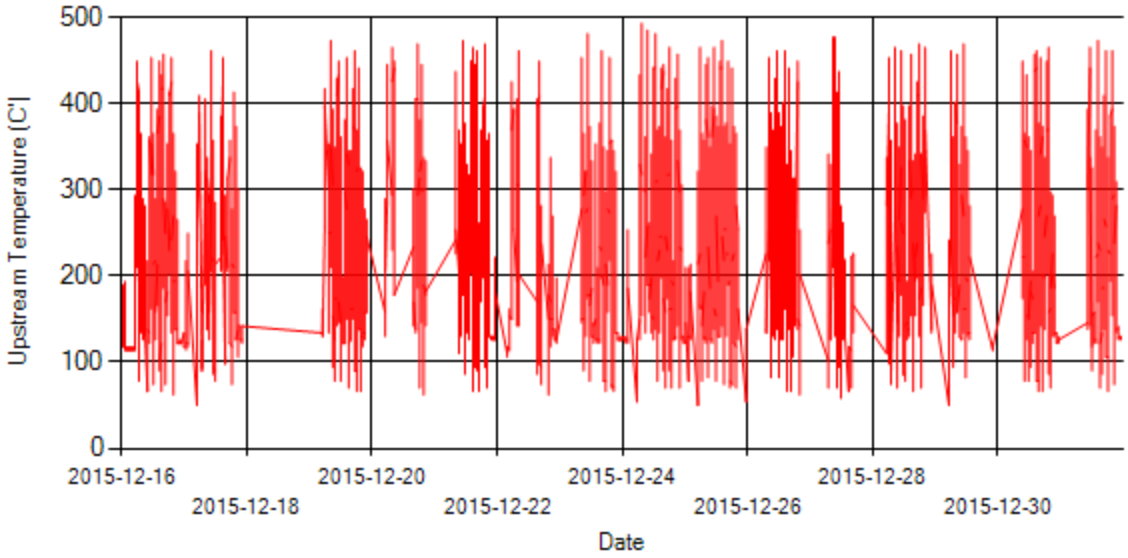

Figure 6- Temperature distribution over the period

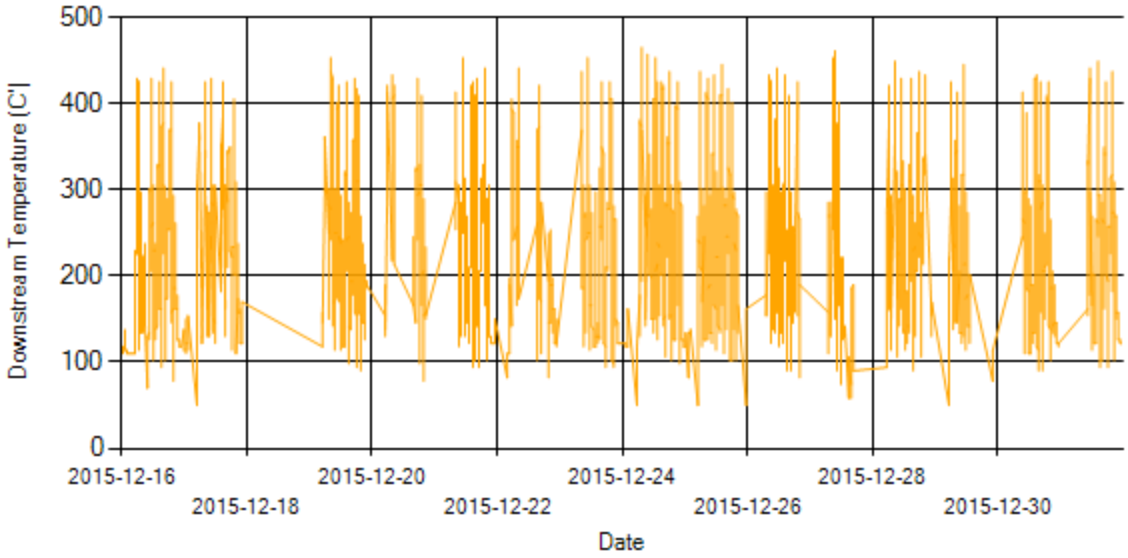

Figure 7- Temperature distribution over the period

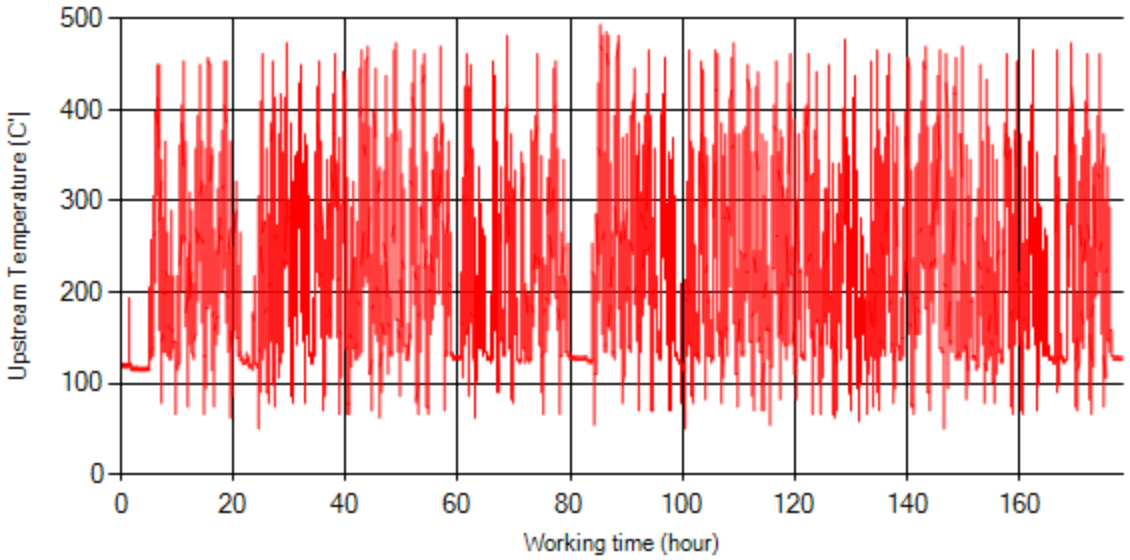

Figure 8- Temperature vs. working hours

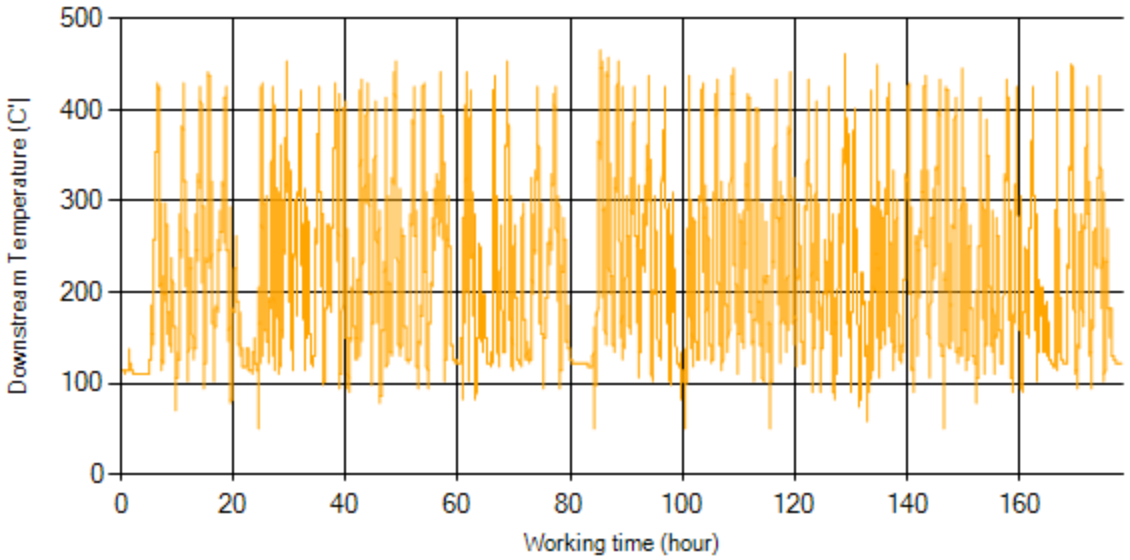

Figure 9- Temperature vs. working hours

Engine Speed Diagrams

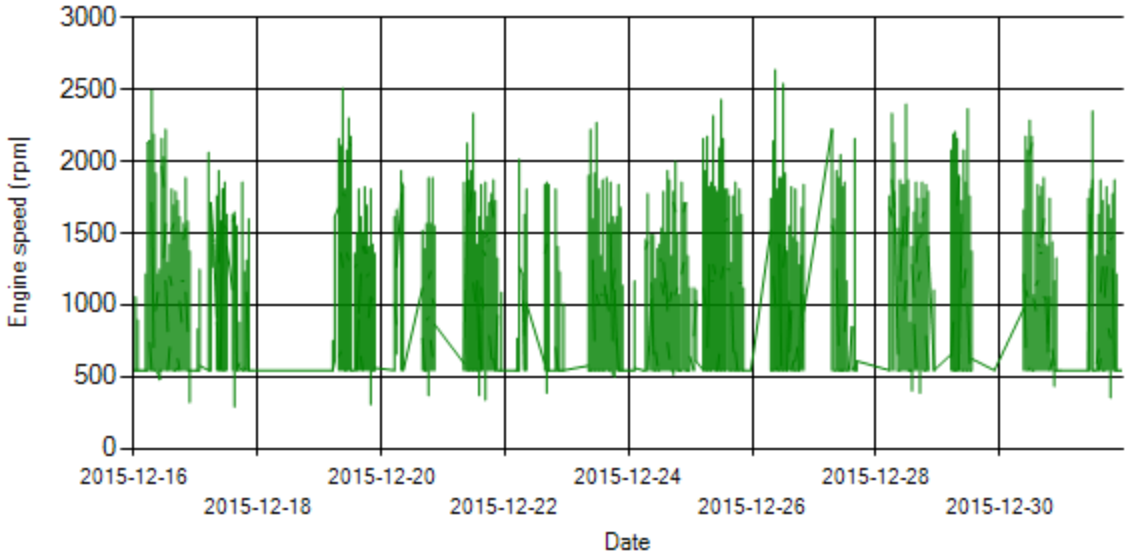

Figure 10- Engine speed distribution over the period

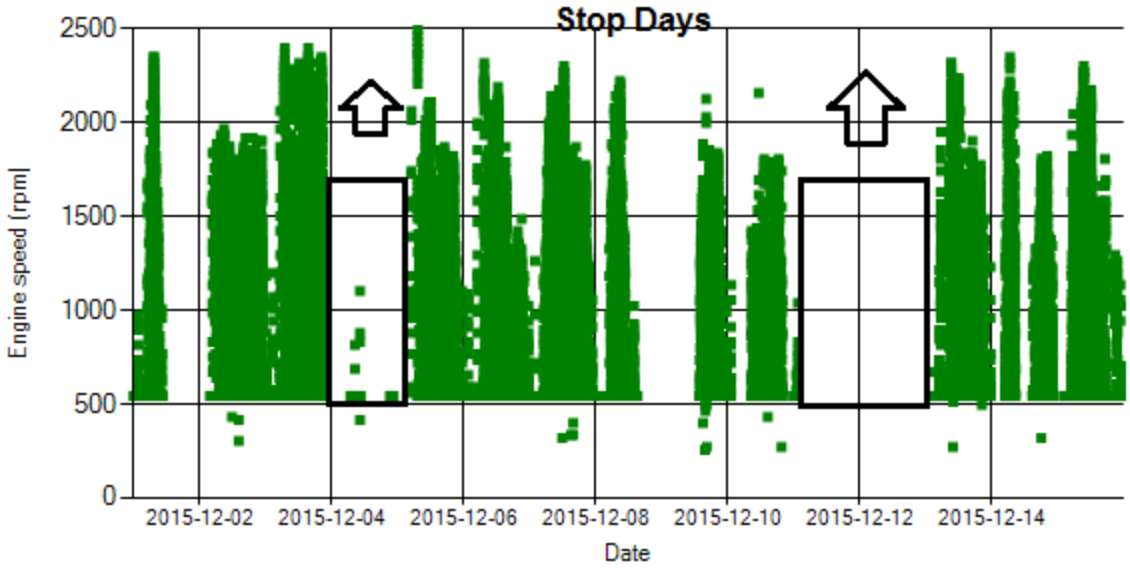

Figure 11- Engine speed diagram for calculating CPK's working days

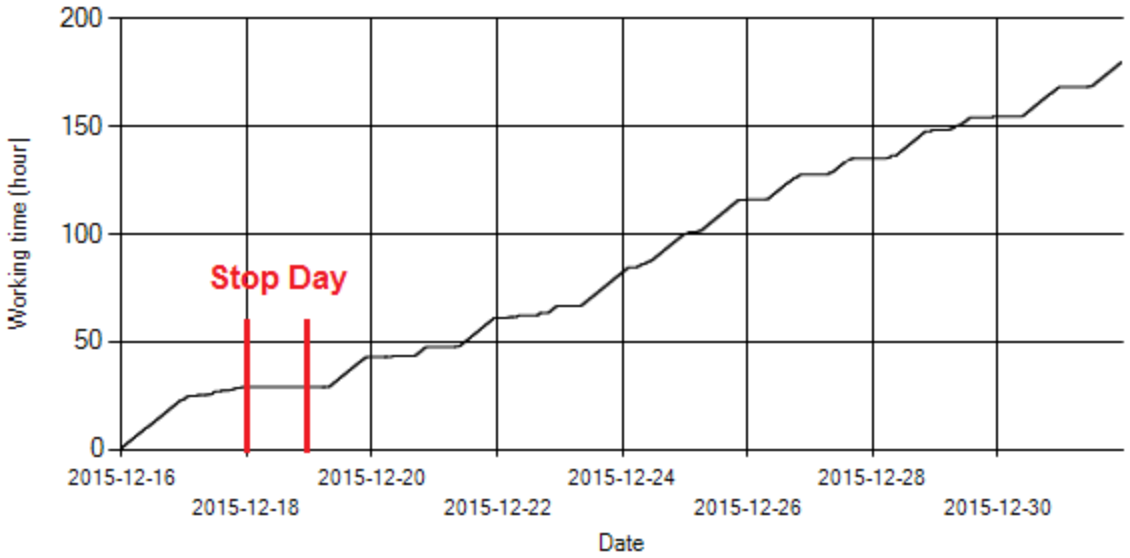

Figure 12- Time diagram for calculating CPK's working days

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 Dec 18th.

Pressure-Engine Speed diagrams

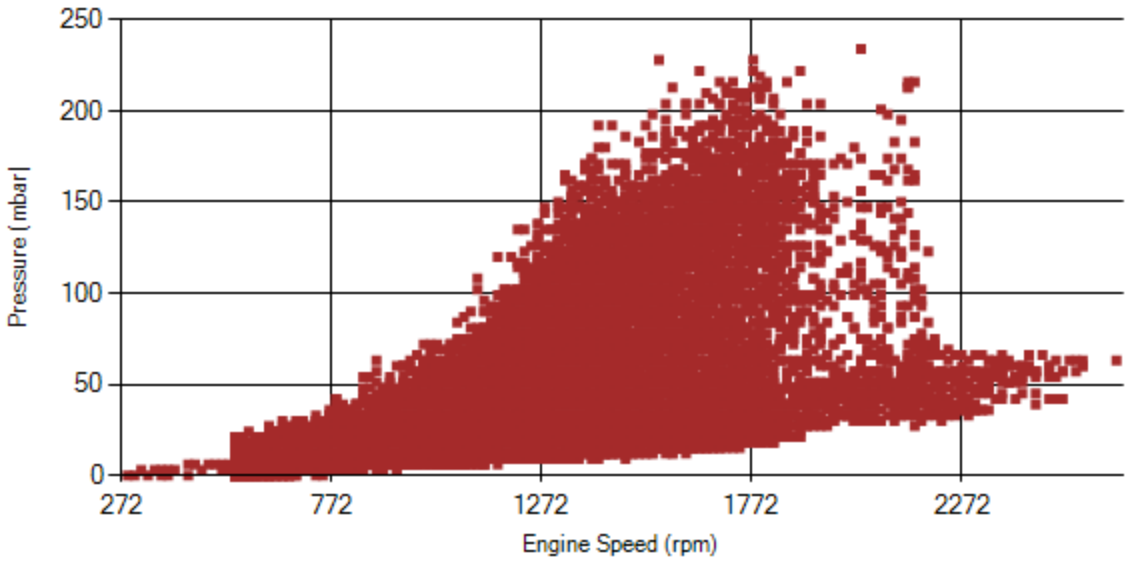

Figure 13- Pressure against engine speed

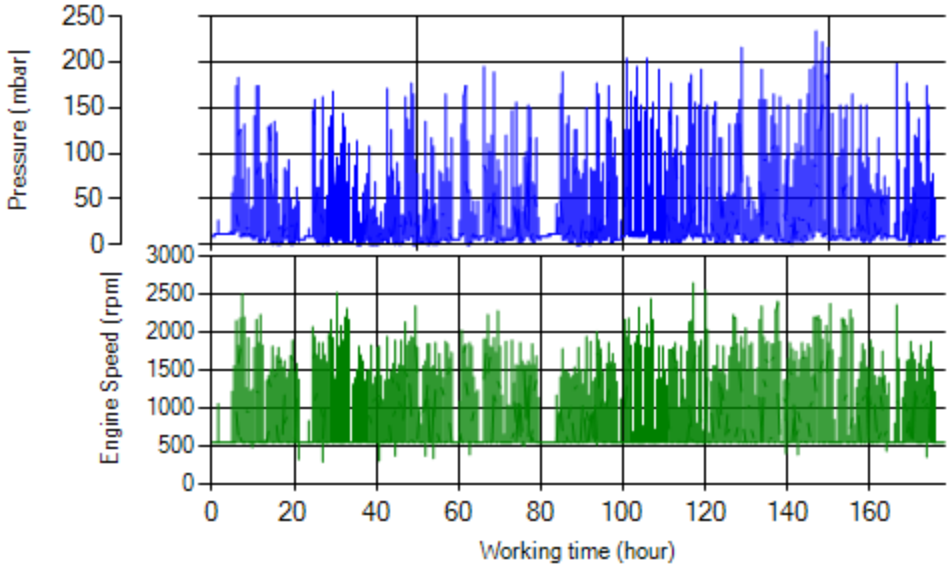

Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

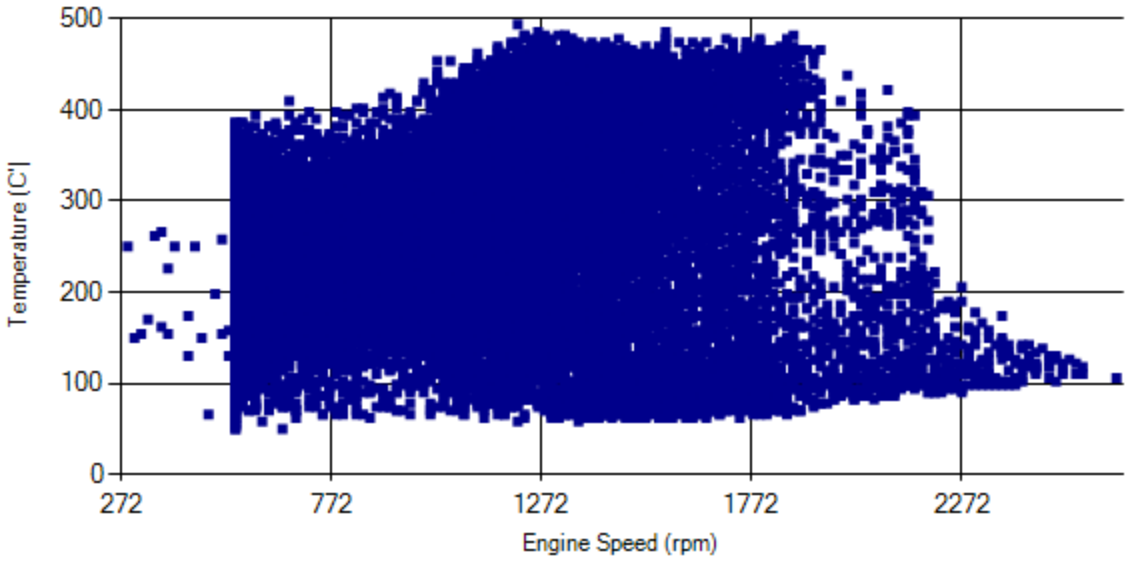

Figure 15- Temperature against engine speed

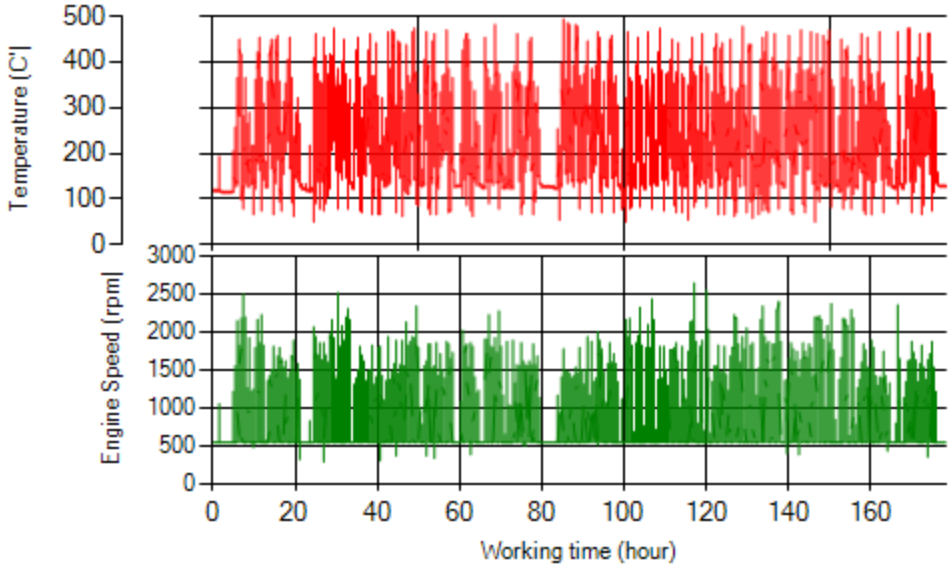

Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in Figure 1, only 0.07% of working time, pressure was above 200 mbar and 1.15% 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 11% above 350°C.

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