

Overall Information

Table1- Overall Information

Vehicle plate number	85476
CPK data logger number	LN: 001508, DN: 2003, Sim +989218469624
Bus line	Number 10 (south to north Bus line)
Bus Terminals	Azadi square - Daneshgah square
Total path distance	10.7 km
DPF producer company	HJS_04 (Passive system with FBC)
Installation date	23/Feb/2015
Report period	01/Dec/2015 – 15/Dec/2015 (fifteen days)
K value - DPF upstream	2.00 [1/m]
K value – DPF downstream	0.02 [1/m]

Table 2- DPF Maintenance History

Filter maintenance date	DPF was cleaned on 22 nd Jul for the first time and on 15 th Dec for the second time after 44355 km mileage from installation date.
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)	44355 km
Bus mileage over the period	2289 km
Working days over the period	15 days
Stop days	0 day
Data logger working days	8 days
Working hours over the period	-
Average working hours per day (including stop days)	-
Bus average speed	-
idle speed time to all working time ration	56.76 %
Total Bus fuel consumption over the period	1550 lit
Fuel consumption per hour	-
Average fuel consumption	0.68 lit/km
Total Bus additive consumption over the period	0.65 lit
Average additive consumption	284 cc/km
Additive consumption to fuel ration	419 cc/1000lit

Notice: Data logger got problem on Dec 8th and some data missed. So some related parameters were left blank in the table 3.

Notice: Data from 1st to 8th Dec was used to draw all following figures.

Temperature, Pressure and Engine Speed Overview

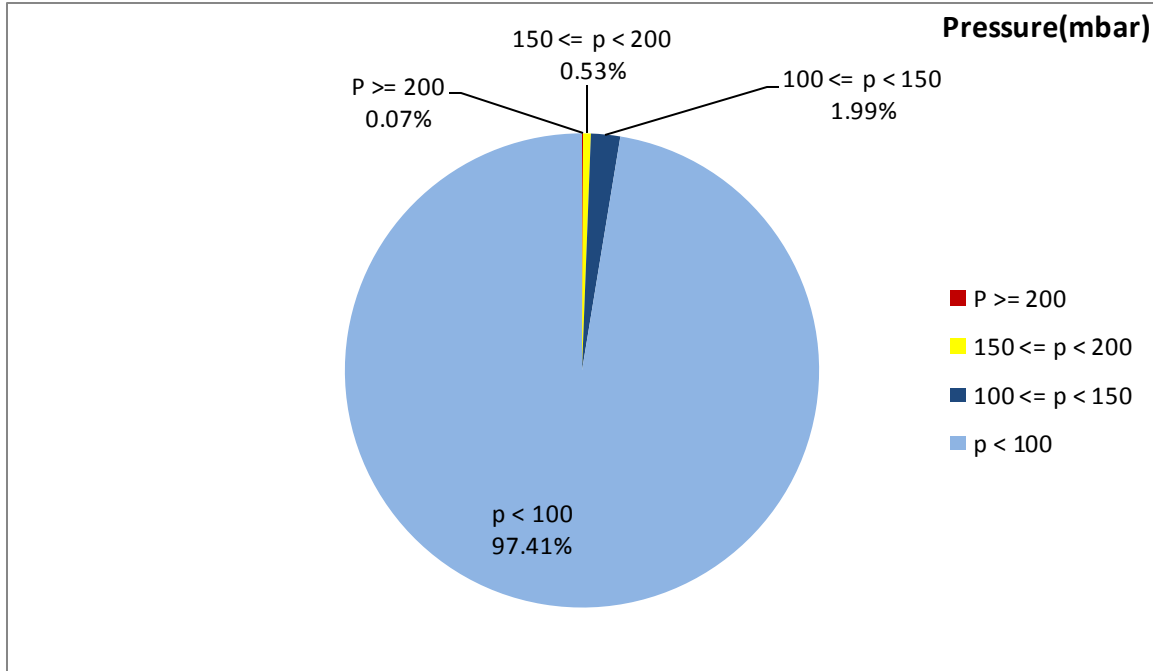


Figure 1- Pressure distribution over the working hours

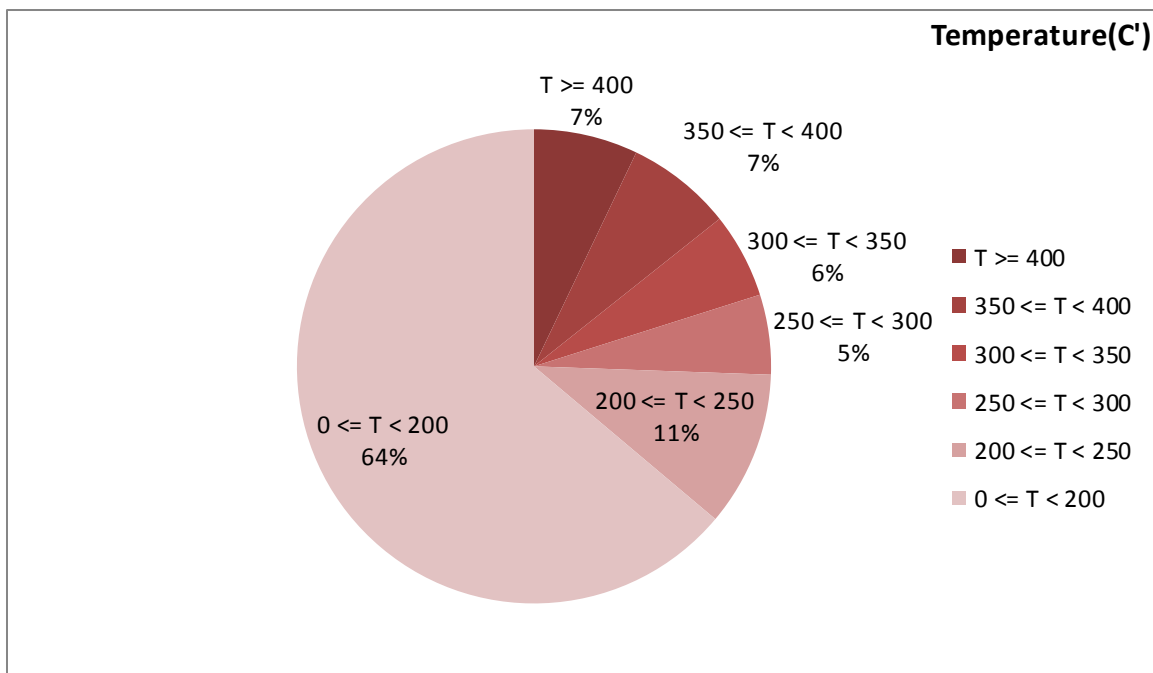


Figure 2-Temperature distribution over the working hours

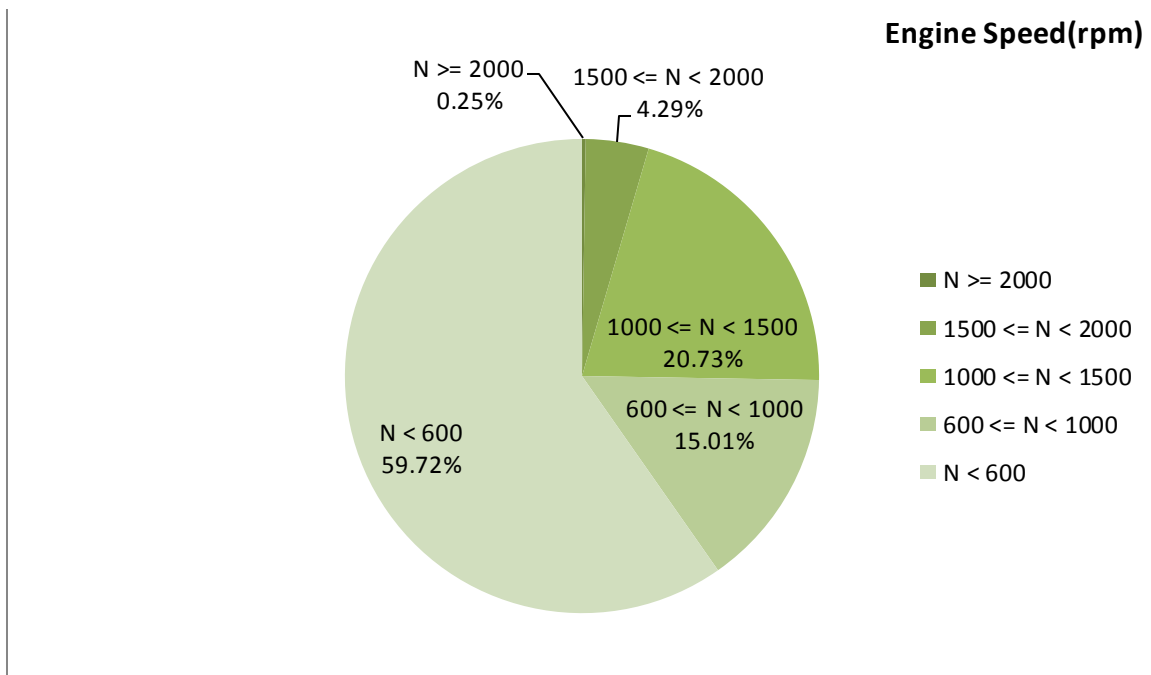


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
207.67	17.6	783

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
261.88	34.82	1065

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
514-50	216-0	2176-256

Detailed Pressure Analysis

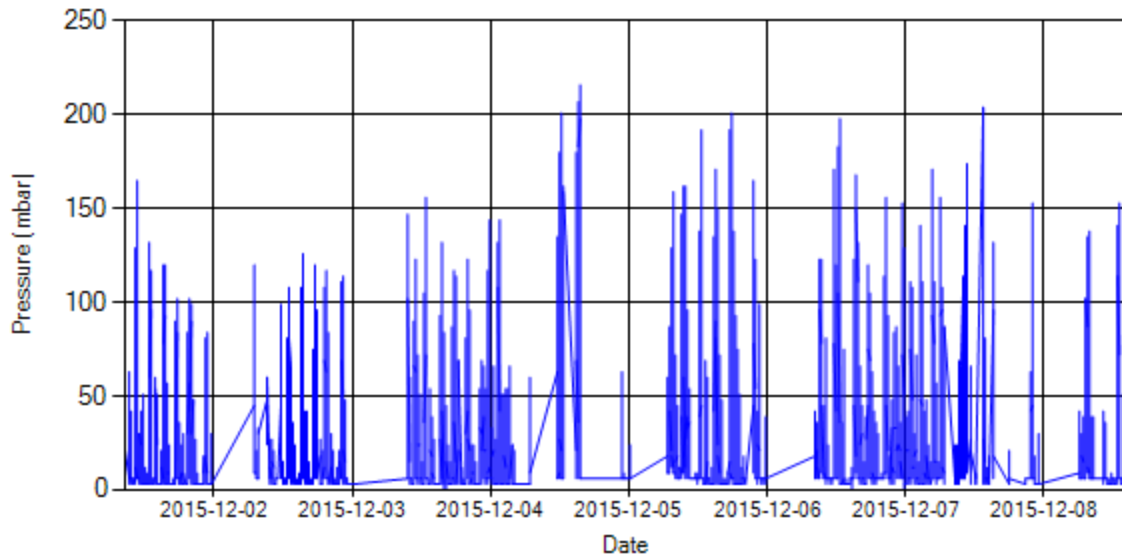


Figure 4- Pressure distribution over the period

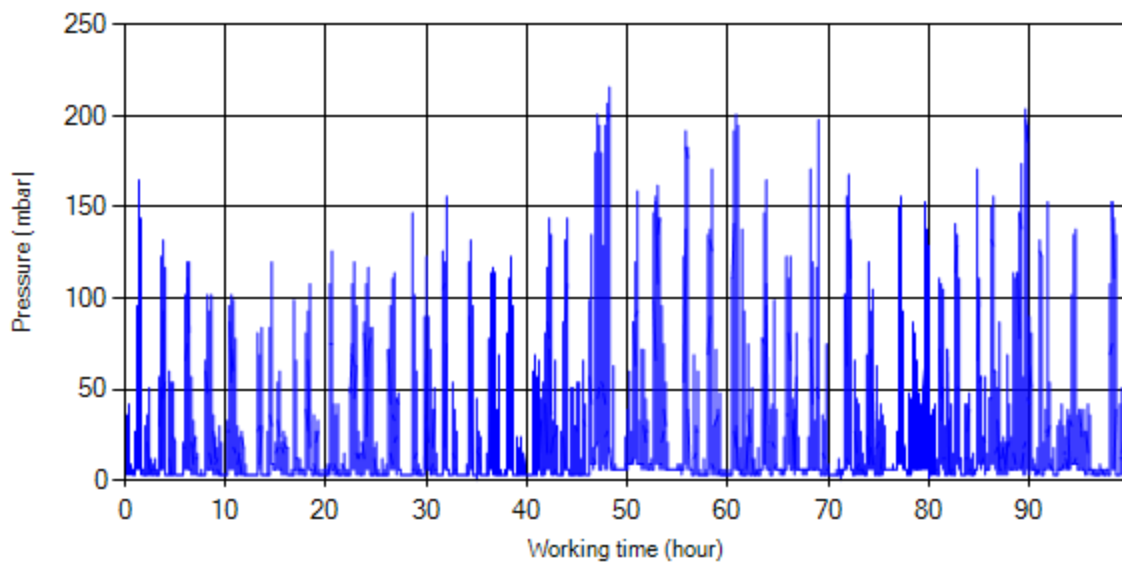


Figure 5- Pressure vs. working hours

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

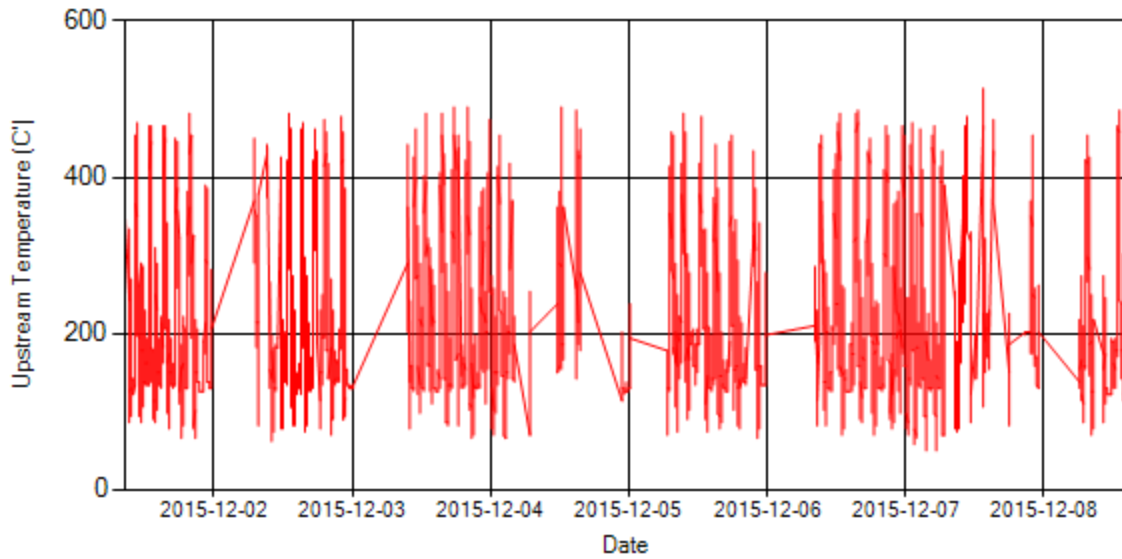


Figure 6- Temperature distribution over the period

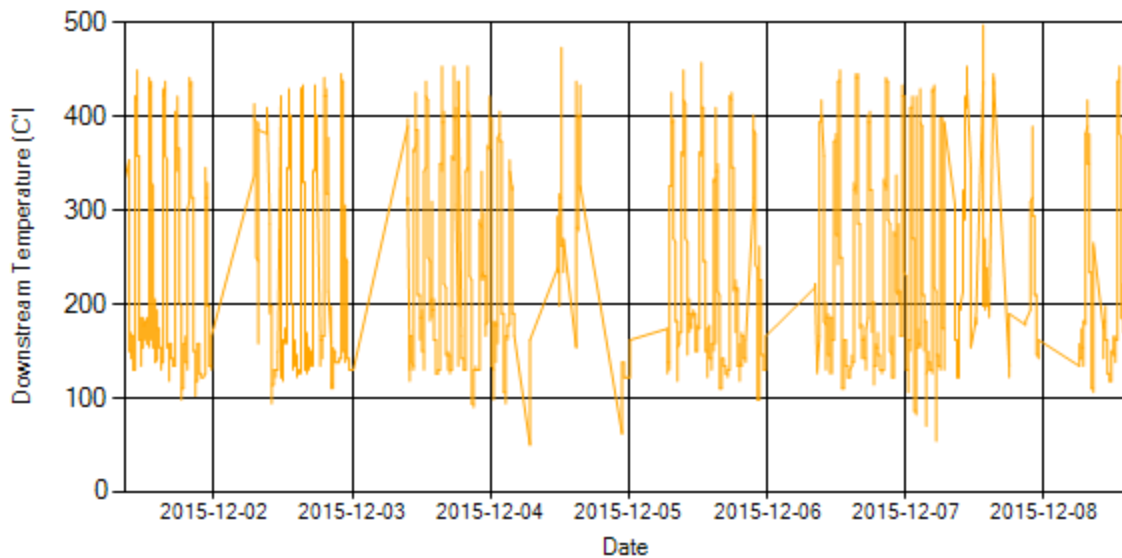


Figure 7- Temperature distribution over the period

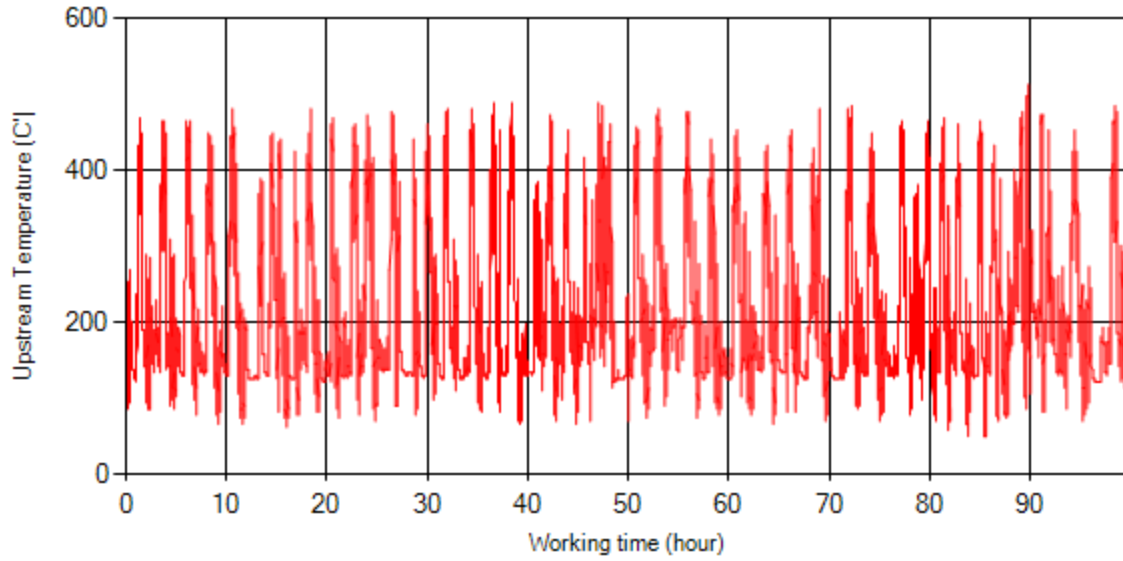


Figure 8- Temperature vs. working hours

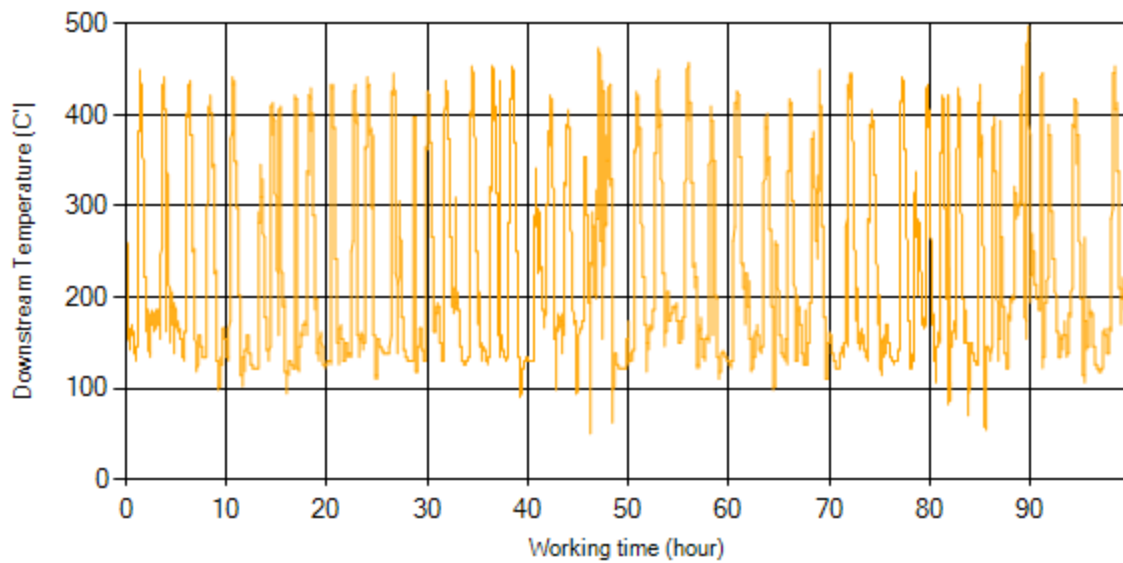


Figure 9- Temperature vs. working hours

Engine Speed Diagrams

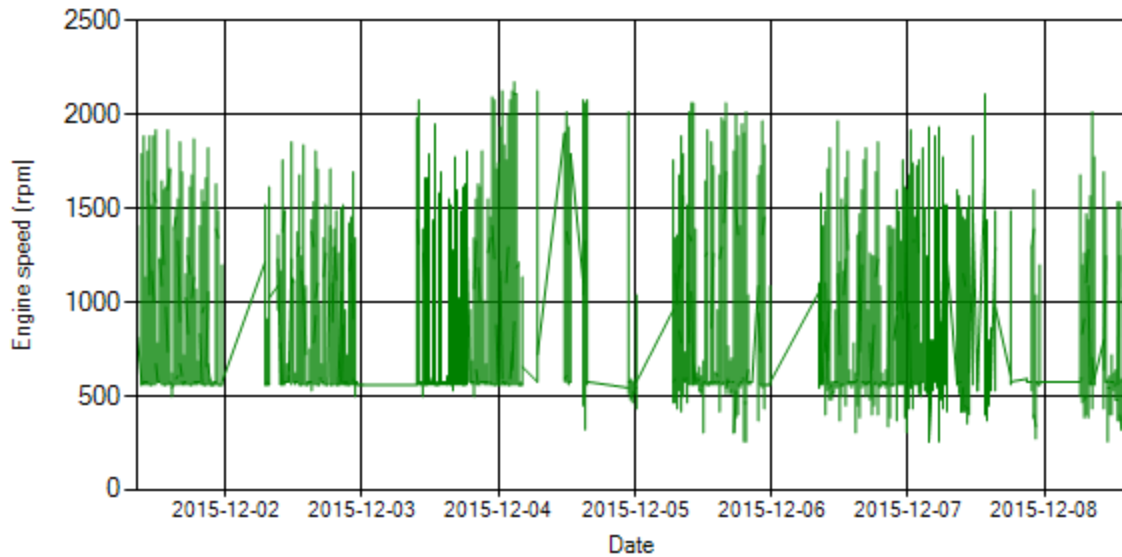


Figure 10- Engine speed distribution over the period

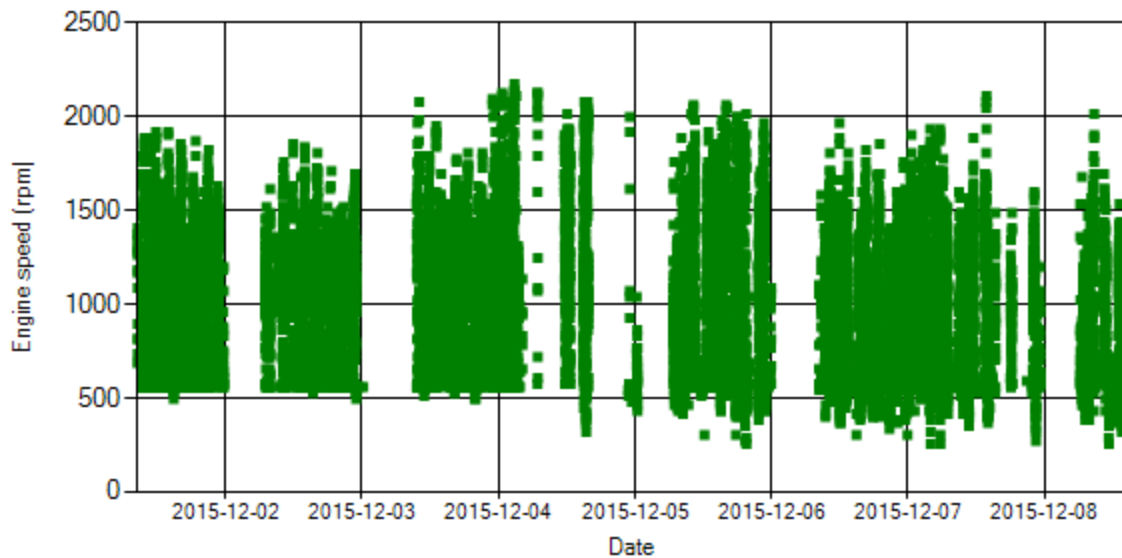


Figure 11- Engine speed diagram for calculating CPK's working days

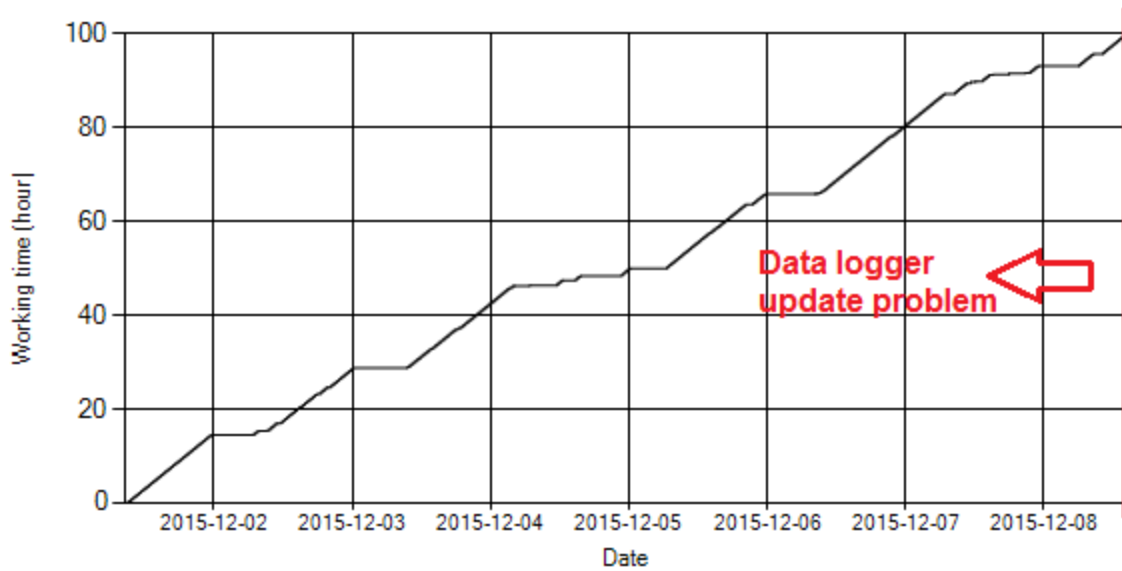


Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data. As depicted in Figure 12, data logger got problem on Dec 8th.

Pressure-Engine Speed diagrams

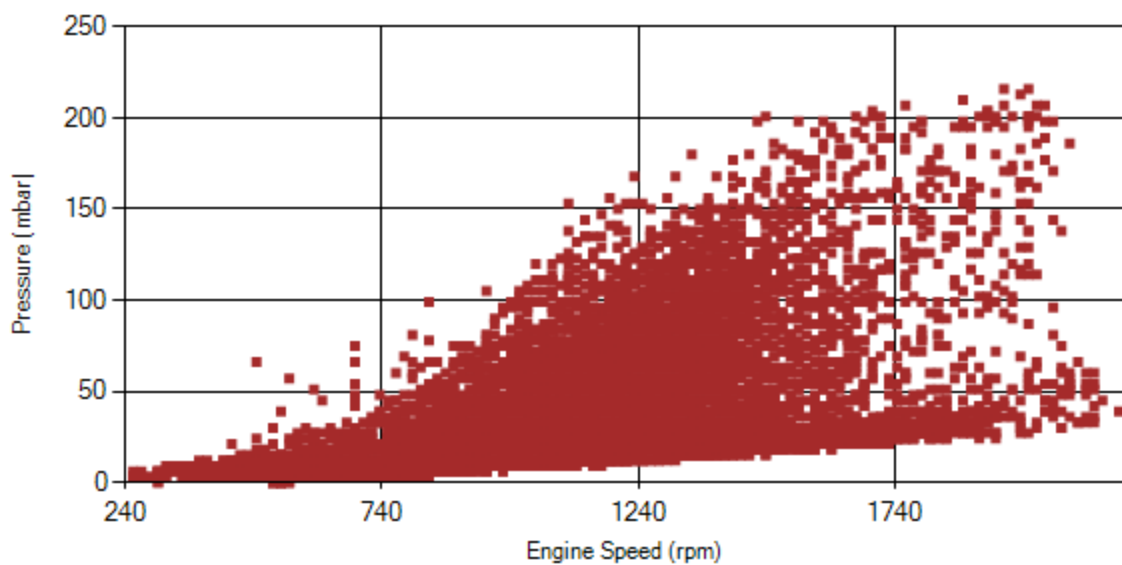


Figure 13- Pressure against engine speed

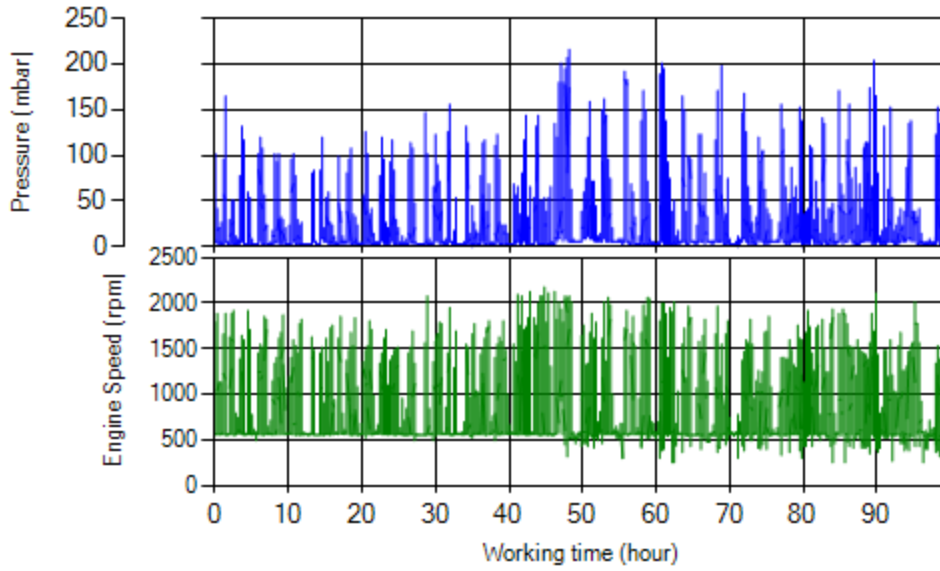


Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

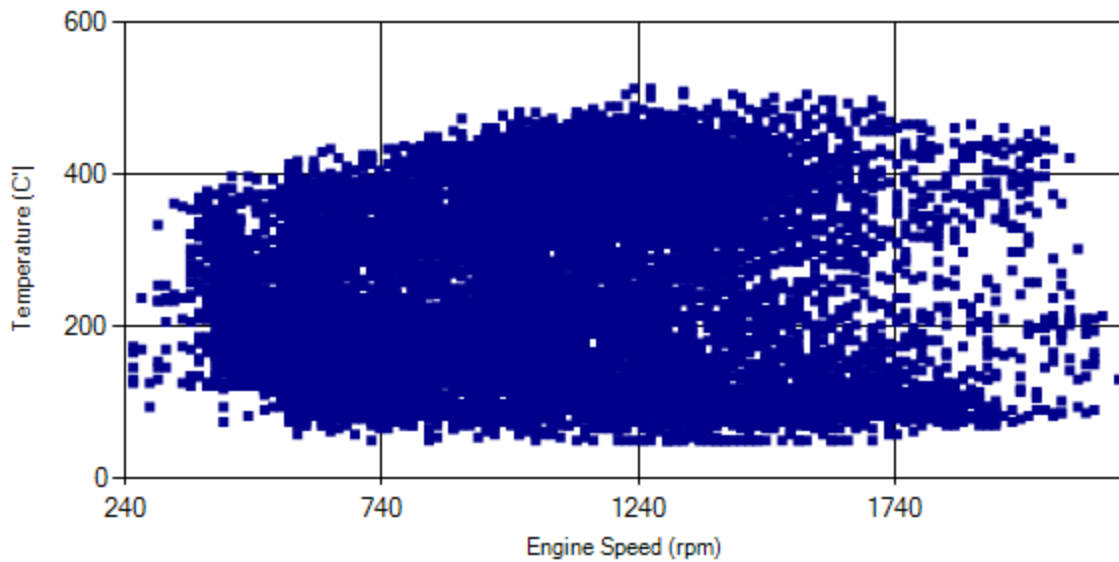


Figure 15- Temperature against engine speed

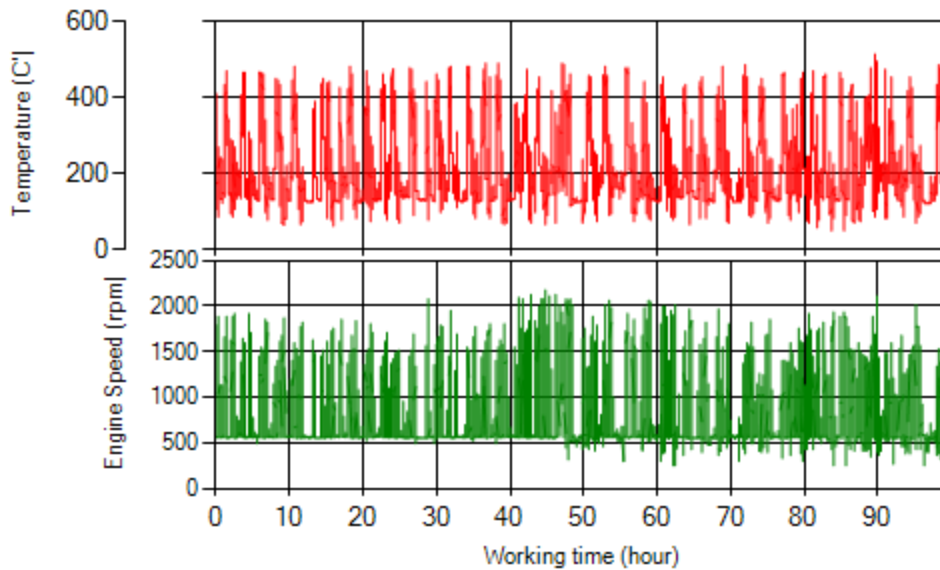


Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

Considering the first 8 days of Dec:

- As depicted in figure 1, only 0.07% of working time pressure was above 200 mbar and 0.6% above 150 mbar.
- It can be obviously observed that 7% of total working-time temperature is above 400 °C and 14% above 350°C.
- Despite the excellent operation for the first 8 days of the month, system ECU warned cleaning time arrival which might be due to additive system problem. So DPF was cleaned on Dec 15th for the second time.

Filter operation status	Excellent <input type="checkbox"/>	Good <input type="checkbox"/>
	Maintenance required <input checked="" type="checkbox"/>	Failed <input type="checkbox"/>