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	16/Nov/2015 – 30/Nov/2015 (fifteen days)
K value - DPF upstream	1.75 [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.
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)	38979 km
Bus mileage over the period	1547 km
Working days over the period	11 days
Stop days	4 days
Data logger working days	11 days
Working hours over the period	137 hours 48 minutes
Average working hours per day (including stop days)	9 hours 11 minutes
Bus average speed	11.2 km/hr
idle speed time to all working time ration	-
Total Bus fuel consumption over the period	990 lit
Fuel consumption per hour	7.2 lit/hr
Average fuel consumption	0.64 lit/km
Total Bus additive consumption over the period	0.42 lit
Average additive consumption	271 cc/km
Additive consumption to fuel ration	424 cc/1000lit

Notice: RPM sensor got problem on Nov 11th and was fixed on Nov 23rd. So some engine speed related parameters missed or show unreasonable values (e.g. working hours and related parameters)

Temperature, Pressure and Engine Speed Overview

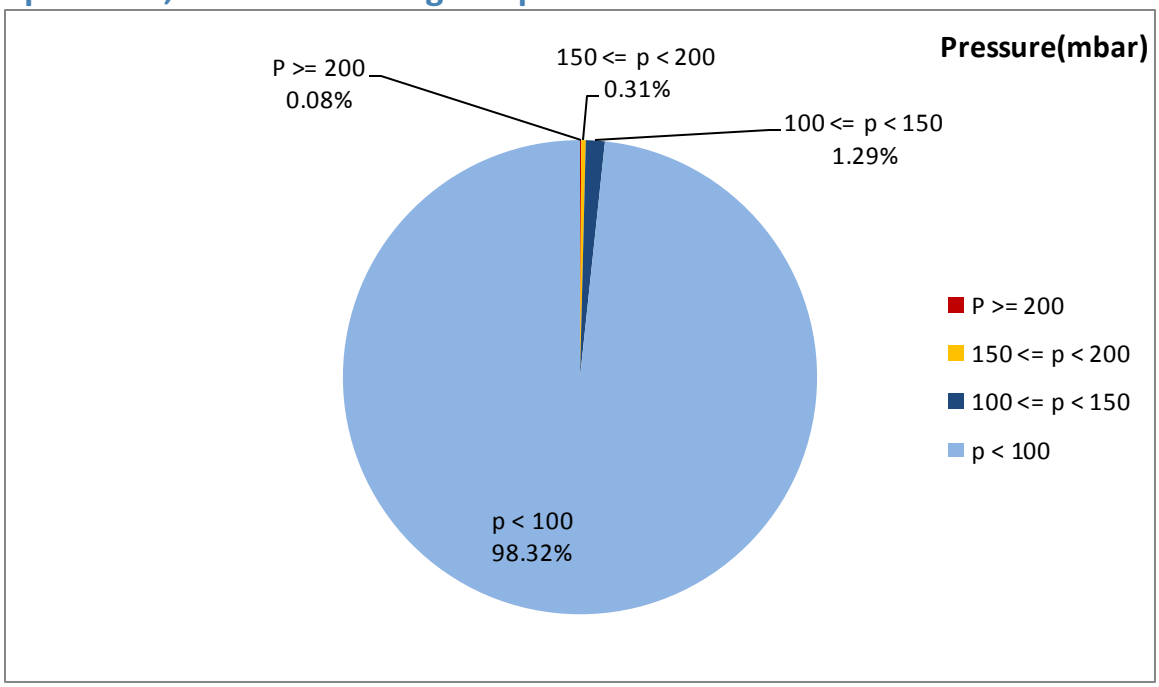

Figure 1- Pressure distribution over the working hours

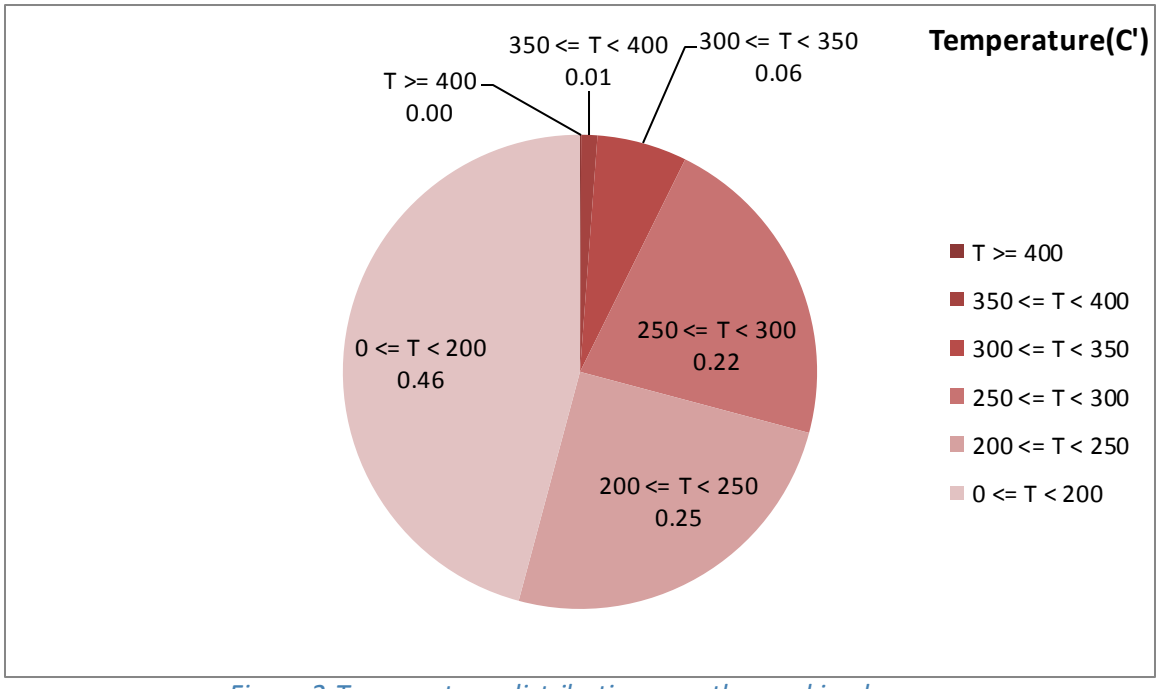

Figure 2-Temperature distribution over the working hours

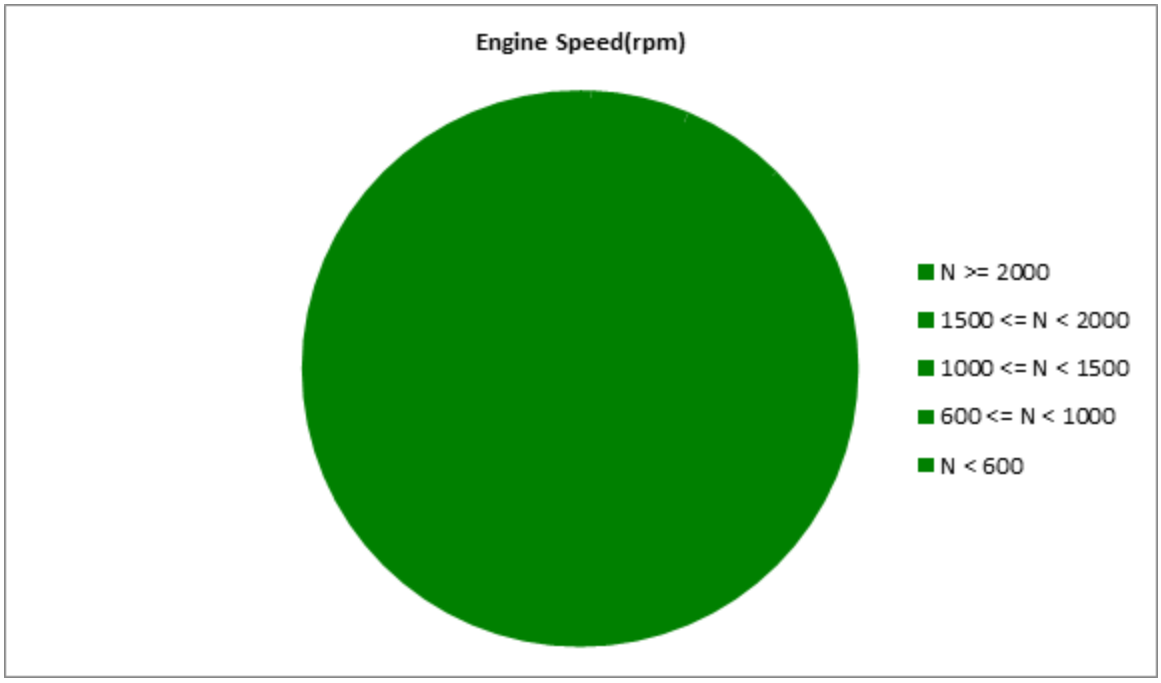

Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
206.72	20.41	-

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
-	-	-

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
458-50	282-0	-

Notice: RPM sensor had problem during this period . So some engine speed related parameters missed or show unreasonable values.

Detailed Pressure Analysis

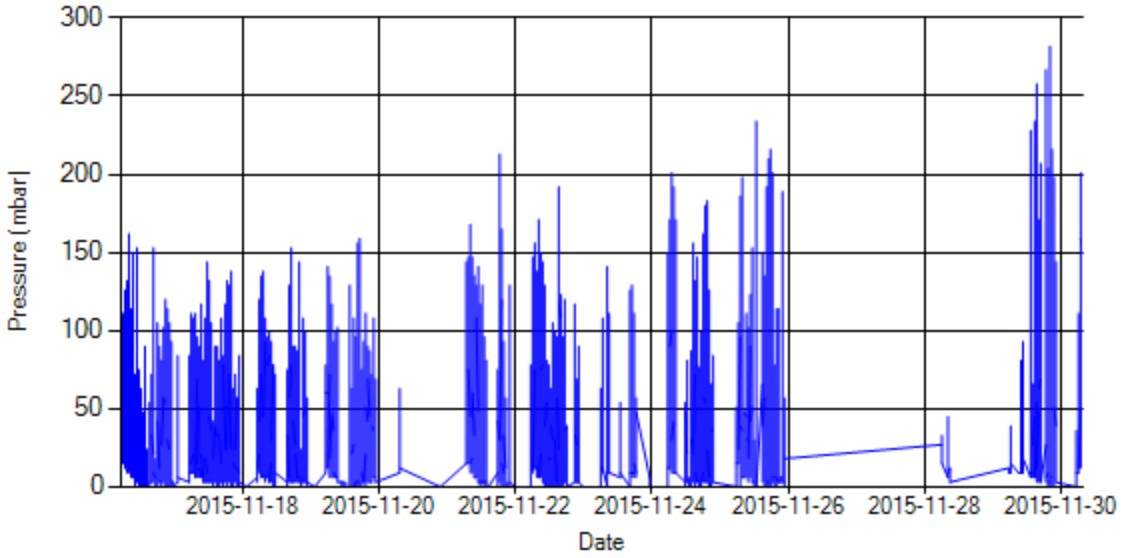

Figure 4- Pressure distribution over the period

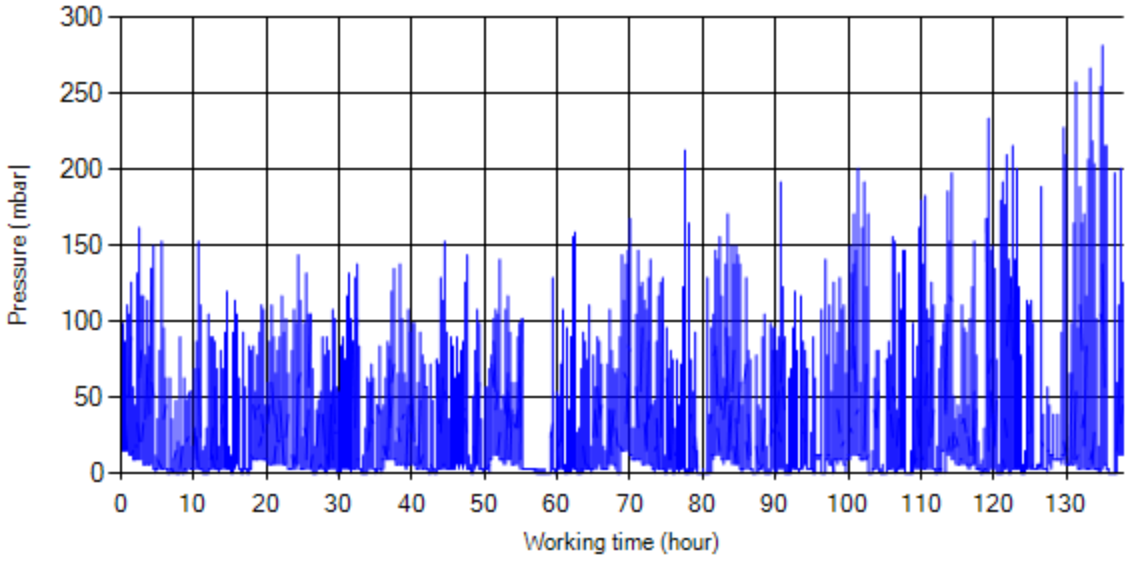

Figure 5- Pressure vs. working hours

Notice: Sharp pressure increment during this period was because of additive system problem.

Detailed Temperature Analysis

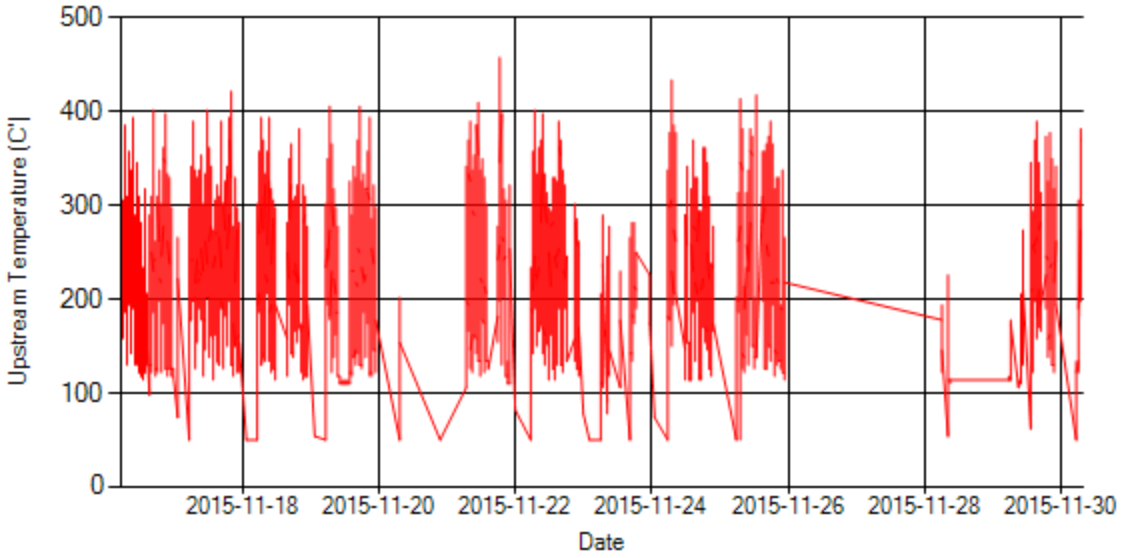

Figure 6- Temperature distribution over the period

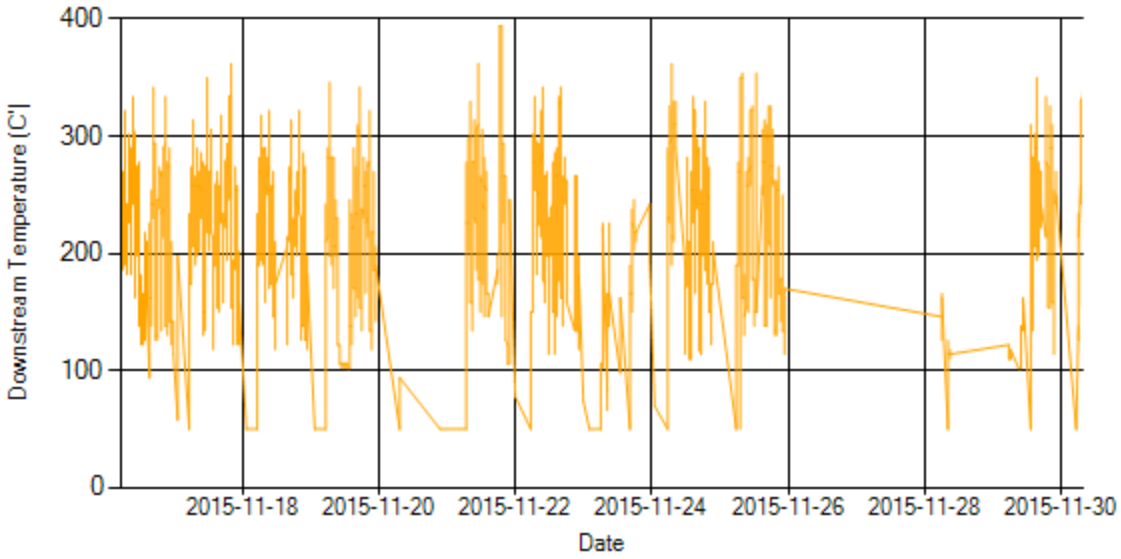

Figure 7- Temperature distribution over the period

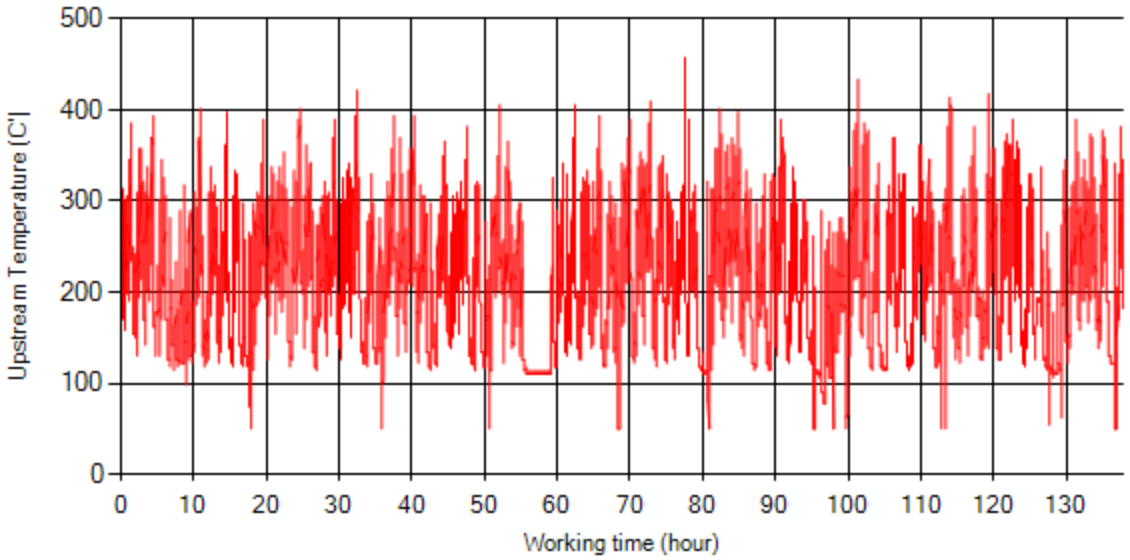

Figure 8- Temperature vs. working hours

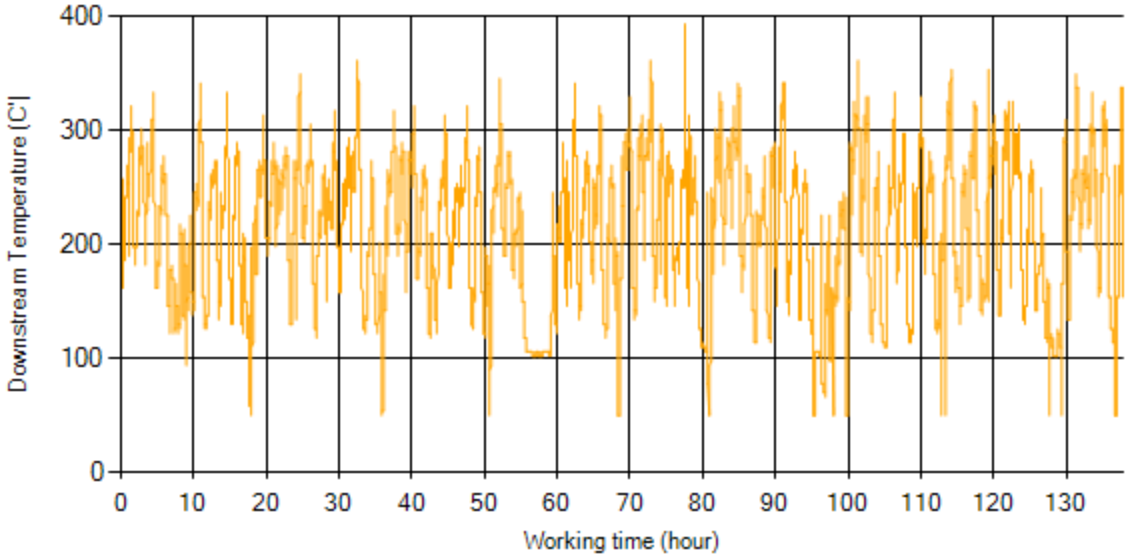

Figure 9- Temperature vs. working hours

Engine Speed Diagrams

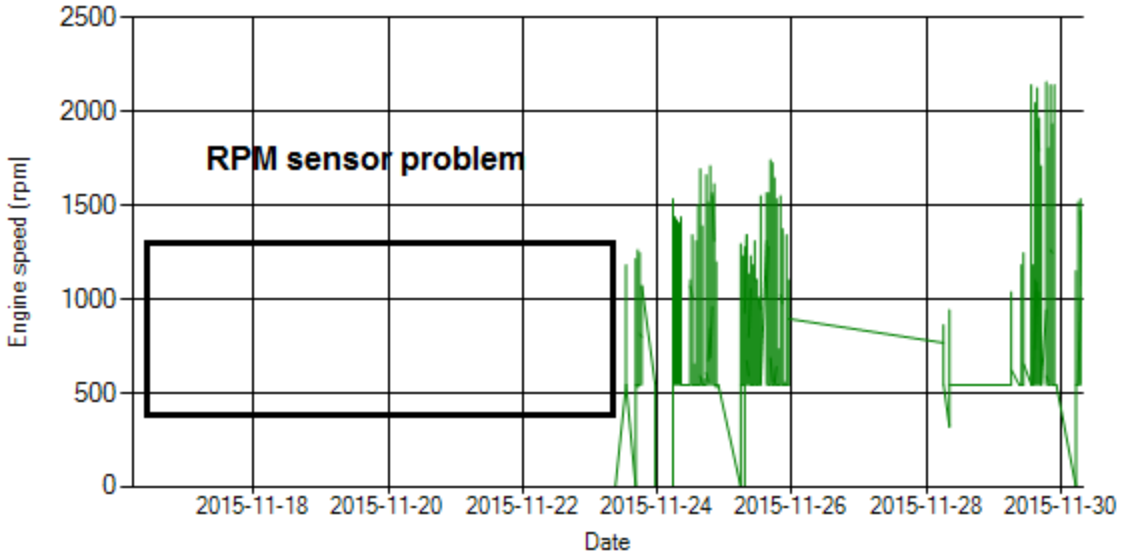

Figure 10- Engine speed distribution over the period

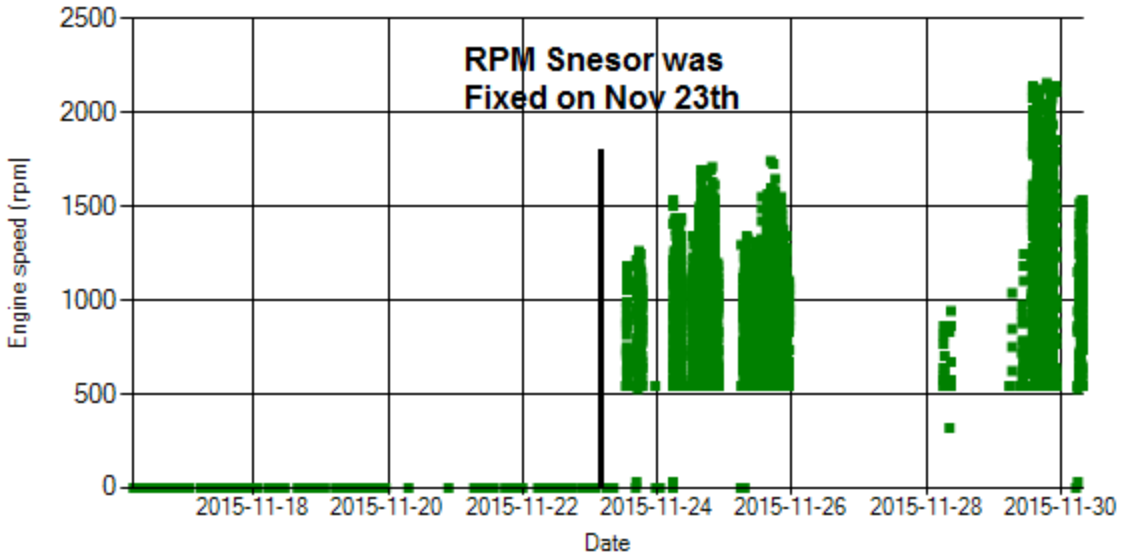

Figure 11- Engine speed diagram for calculating CPK's working days

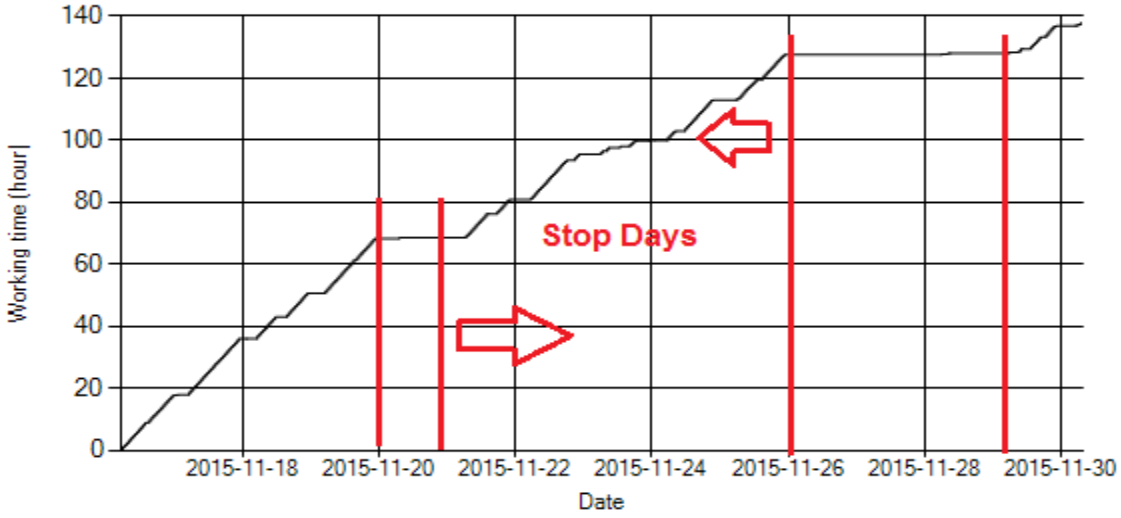

Figure 12- Time diagram for calculating CPK's working days

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 for four days during this period.

Pressure-Engine Speed diagrams

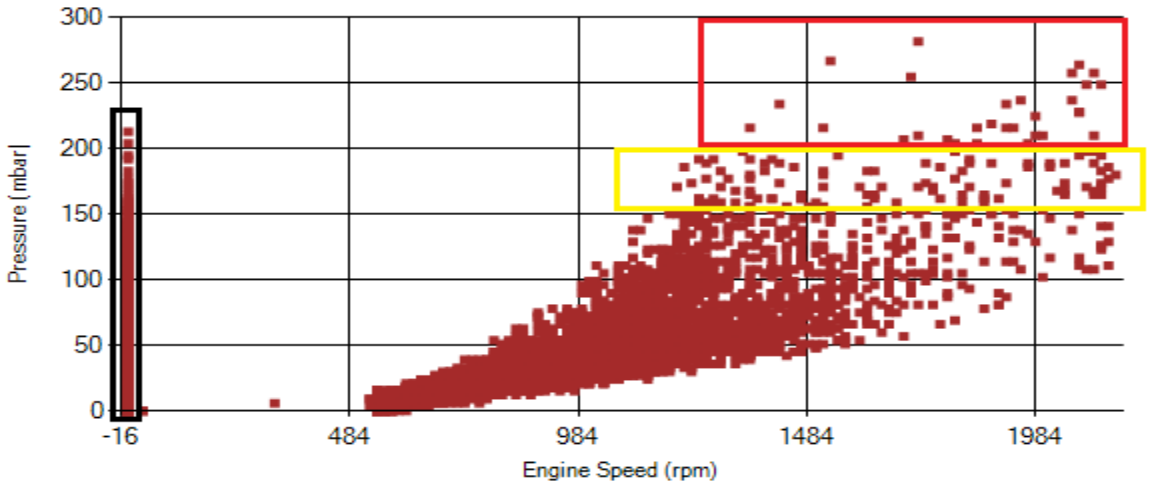

Figure 13- Pressure against engine speed

Notice: Red alarm (pressure>200 mbar) and yellow alarm (200>pressure>150) ranges were indicated in figure 13. Straight line (black region) was because of RPM sensor problem.

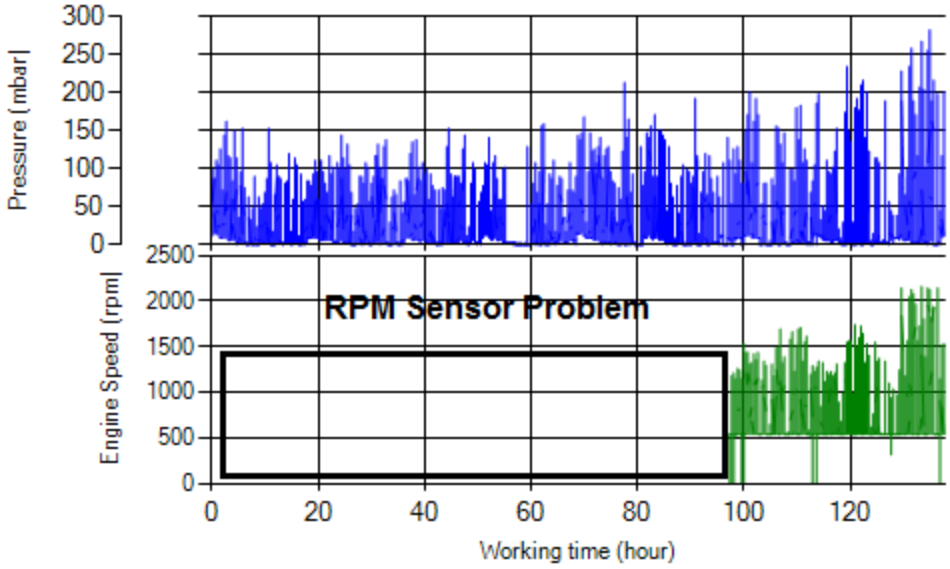

Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

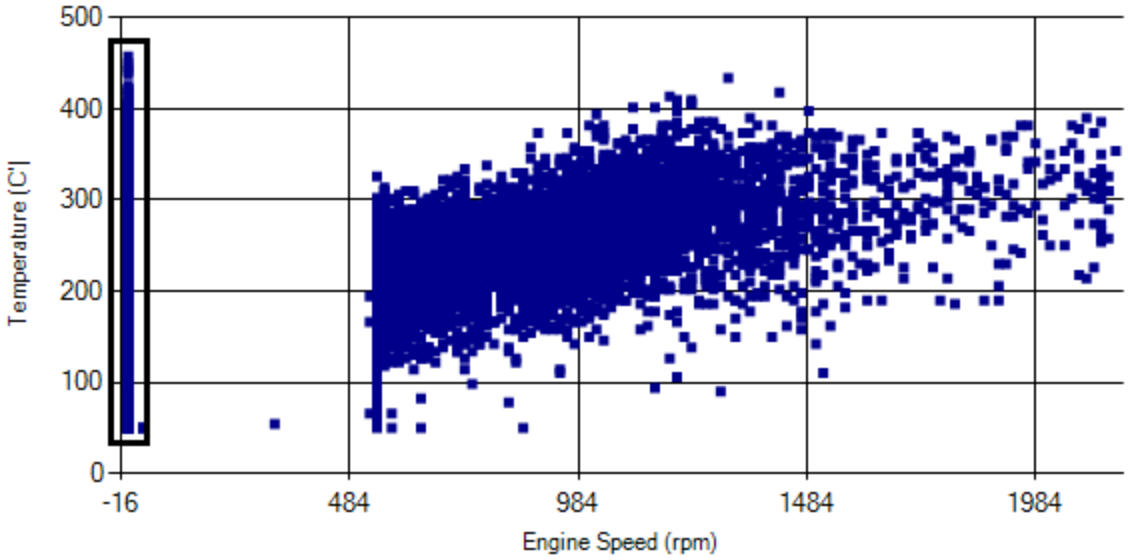

Figure 15- Temperature against engine speed

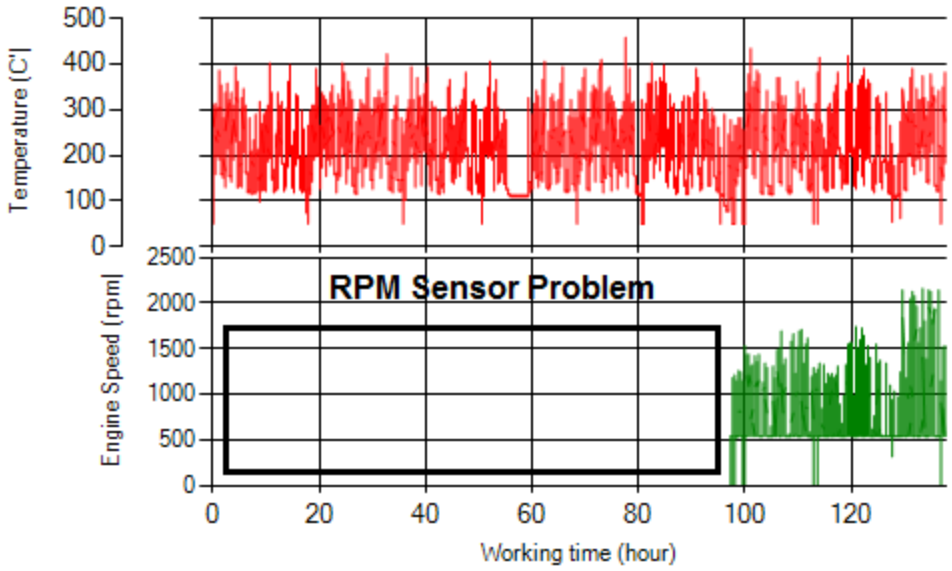

Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in figure 1, 0.08% of total working time pressure is above 200 mbar and 0.39% above 150 mbar during this period. Comparing pressure values with first half of Nov, shows sharp increment. This sharp variation during this period was because of additive system's problem.
- Figure 2 displays flow temperature distribution for DPF's upstream. It can be obviously observed only 0.01% of total working time temperature is above 350°C. This low temperature distribution was other effective parameter on pressure increment.

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