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/Oct/2015 – 15/Oct/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 was cleaned on 22nd Jul.
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)	35644 km
Bus mileage over the period	2676 km
Working days over the period	14 days
Stop days	1 day
Data logger working days	14 days
Working hours over the period	182 hours 24 minutes
Average working hours per day (including stop days)	12 hours 9 minutes
Bus average speed	14.67 km/hr
idle speed time to all working time ration	53 %
Total Bus fuel consumption over the period	1712 lit
Fuel consumption per hour	9.39 lit/hr
Average fuel consumption	0.64 lit/km
Total Bus additive consumption over the period	0.728 lit
Average additive consumption	272 cc/km
Additive consumption to fuel ration	425 cc/1000lit

Notice: Engine rotational speed data were unreasonable during this period due to rpm sensor problem. So related parameters were unreliable.

Temperature, Pressure and Engine Speed Overview

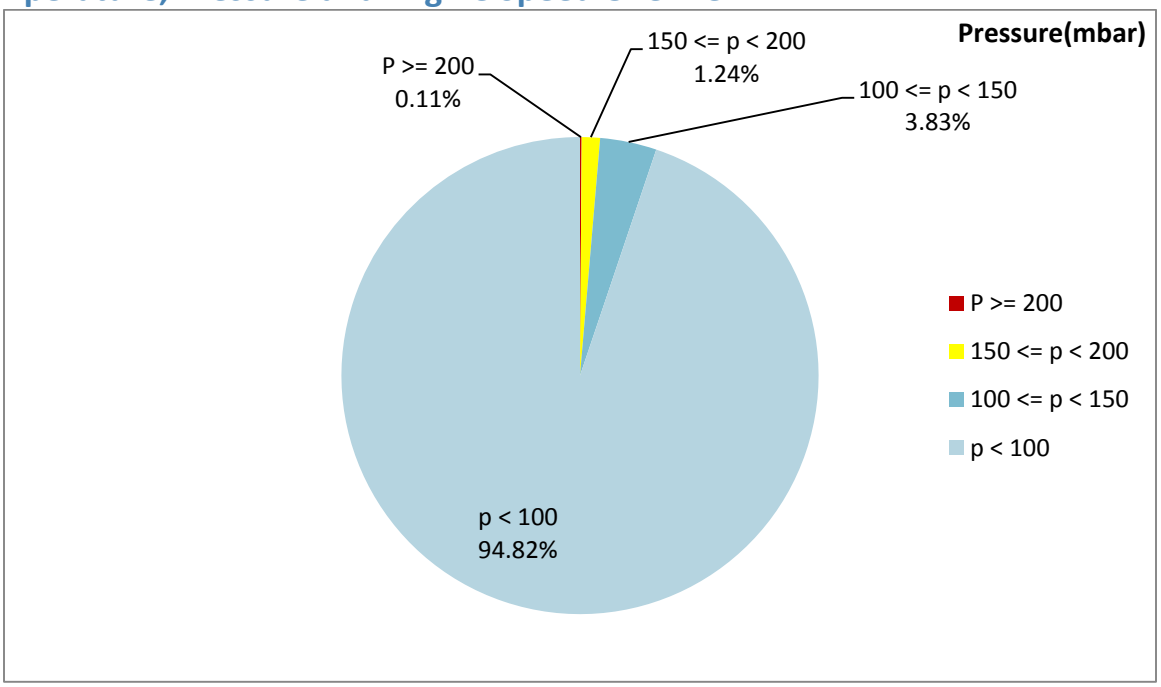

Figure 1- Pressure distribution over the working hours

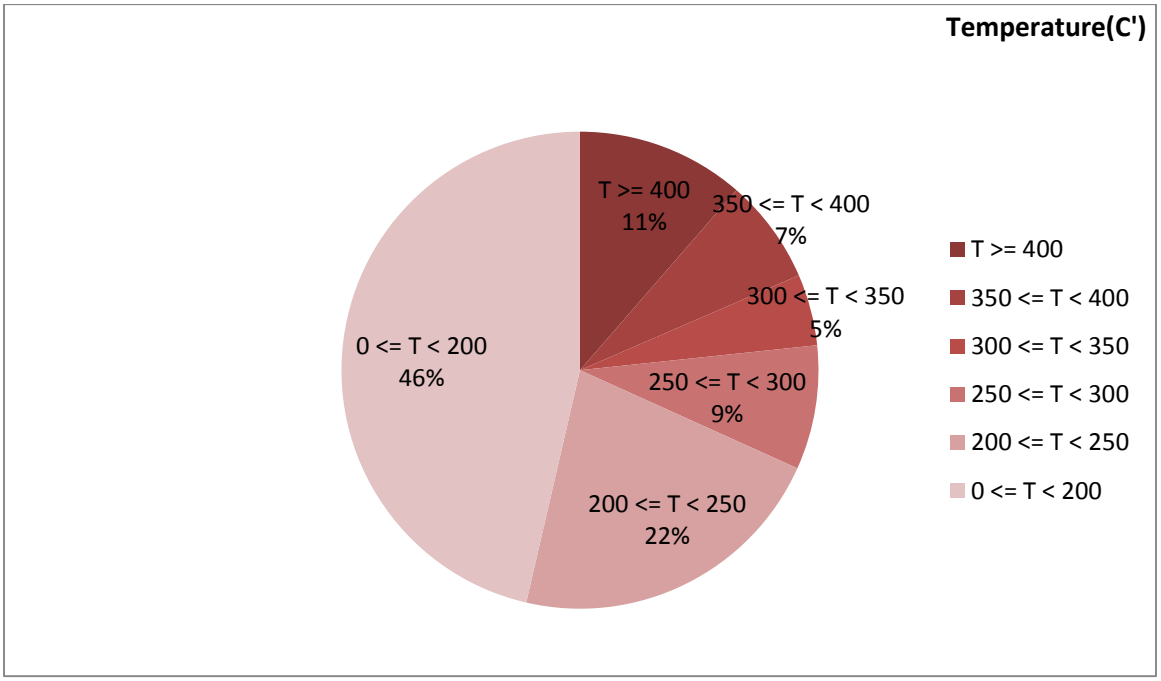

Figure 2-Temperature distribution over the working hours

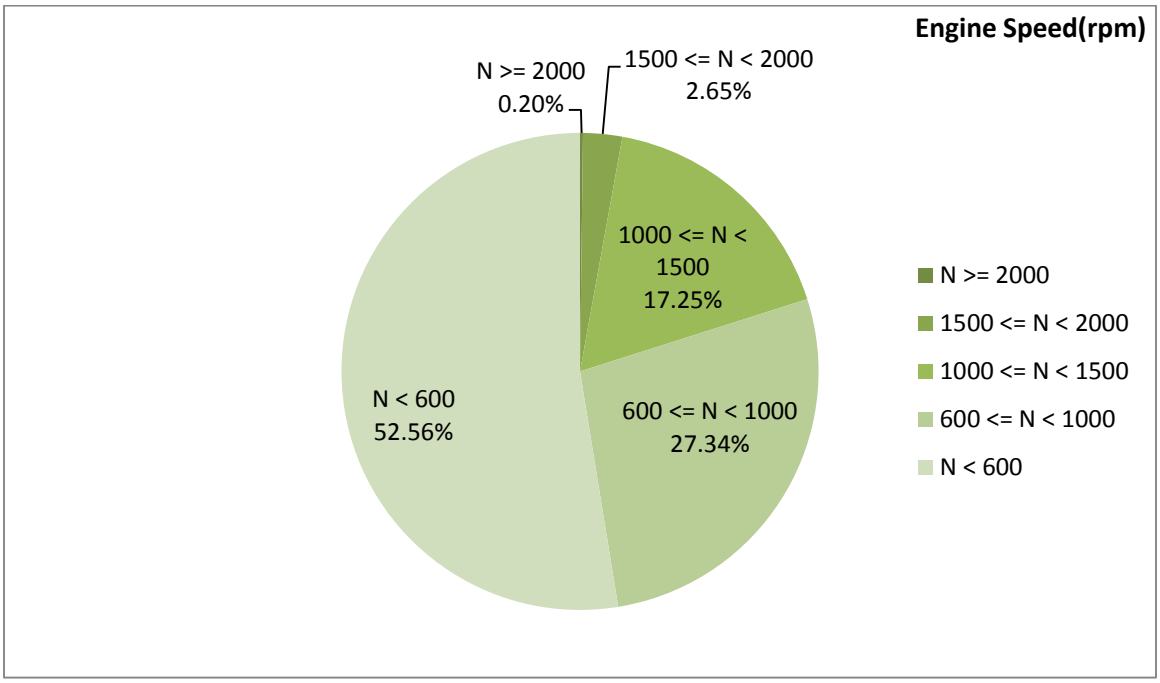

Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
237.05	24.5	737

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
245.78	33.87	837

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
538-50	228-3	2480-256

Notice: Temperature 1 and 2 data were incorrect from Nov 12th to Nov 20th, because of temp 2 sensor's short circuit problem. Temp 2 sensor was removed on Nov 20th, so first 10 days (Nov-1st to Nov-10th) temperature's data were used for providing figure 2 and tables 4,5,6 .

Detailed Pressure Analysis

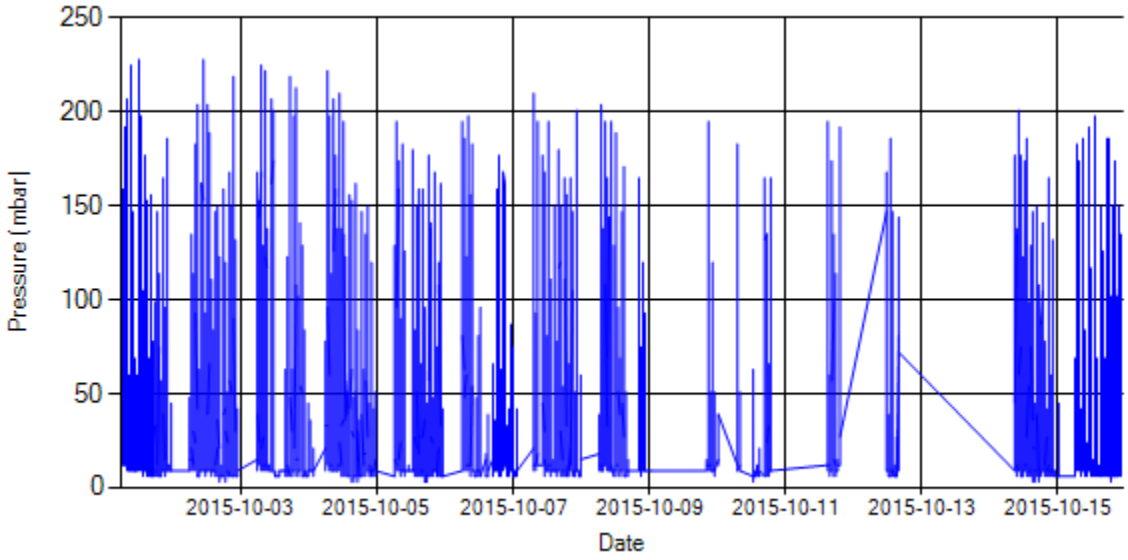

Figure 4- Pressure distribution over the period

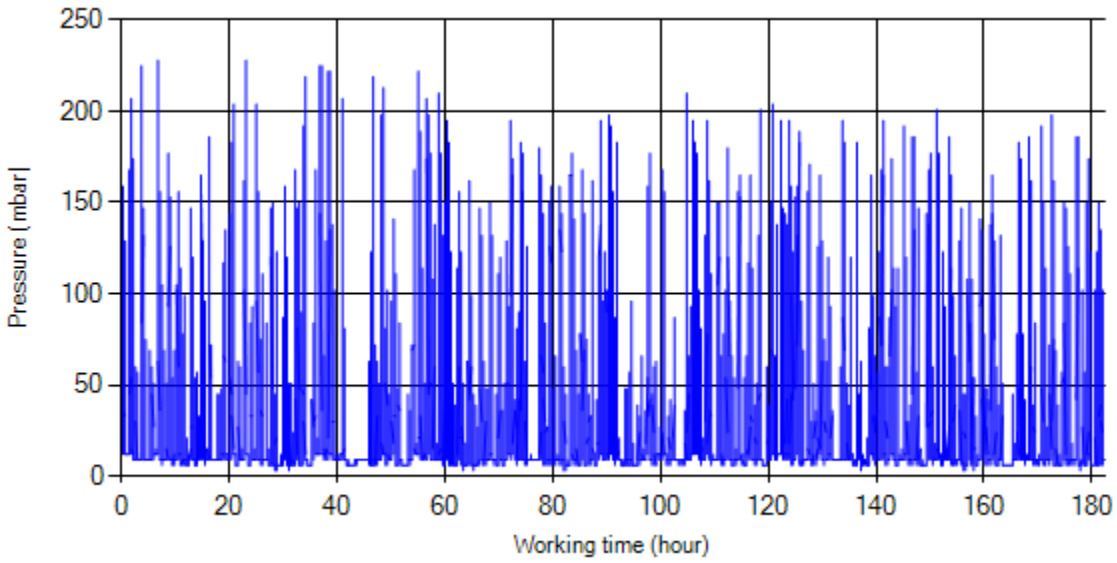

Figure 5- Pressure vs. working hours

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

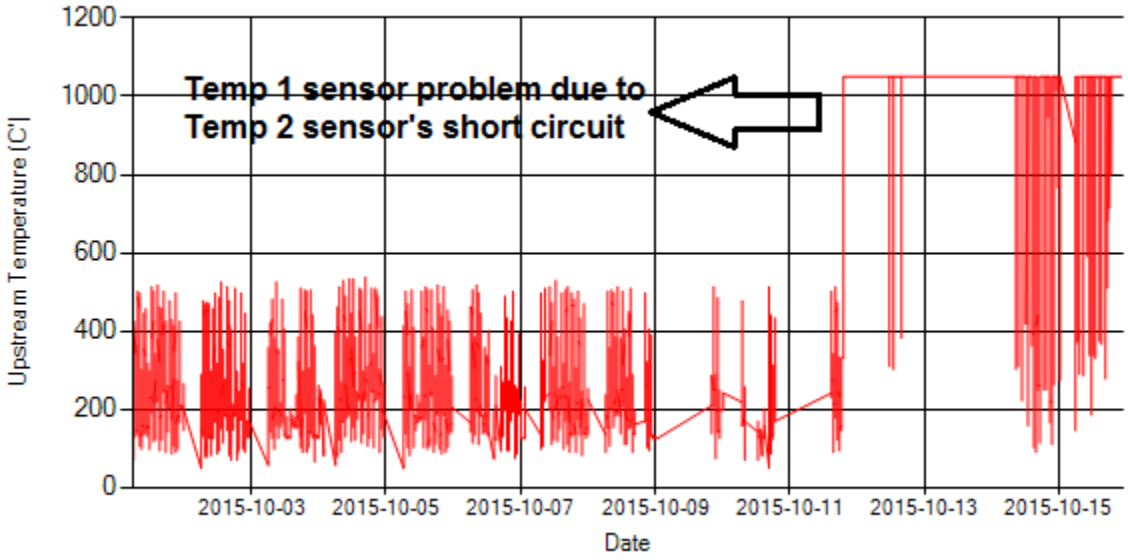

Figure 6- Temperature distribution over the period

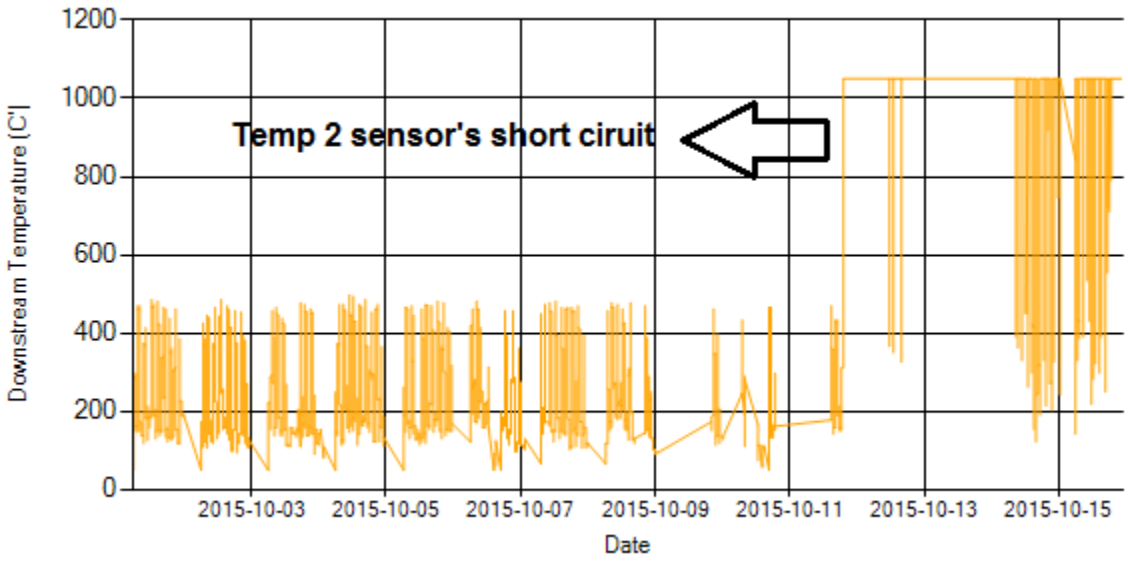

Figure 7- Temperature distribution over the period

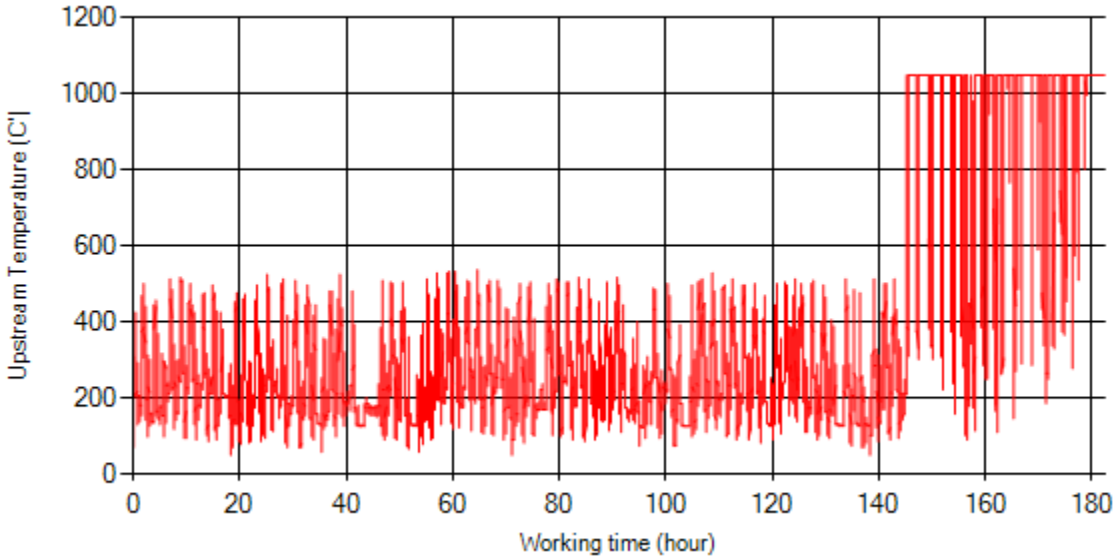

Figure 8- Temperature vs. working hours

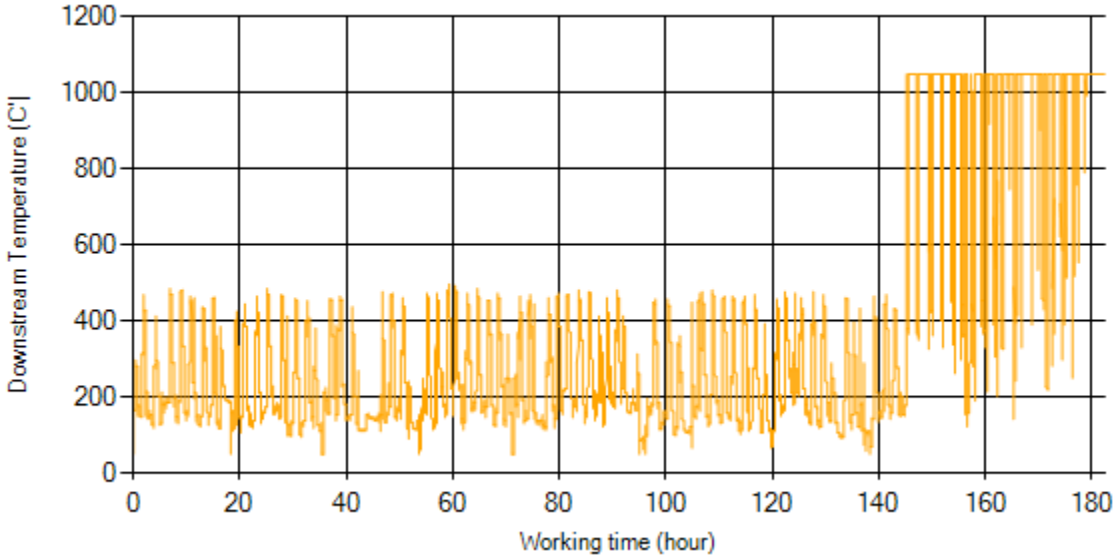

Figure 9- Temperature vs. working hours

Engine Speed Diagrams

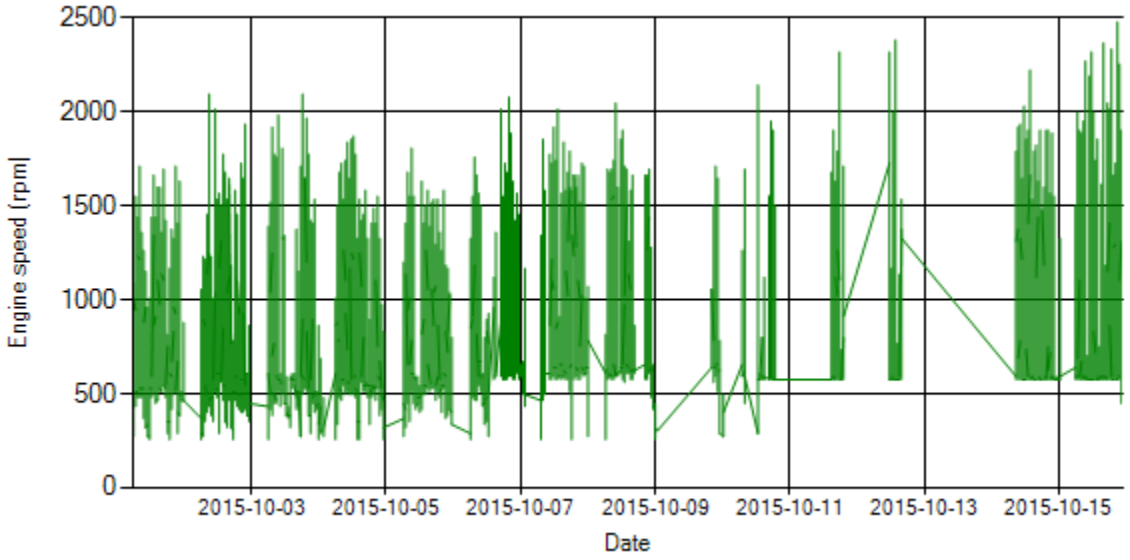

Figure 10- Engine speed distribution over the period

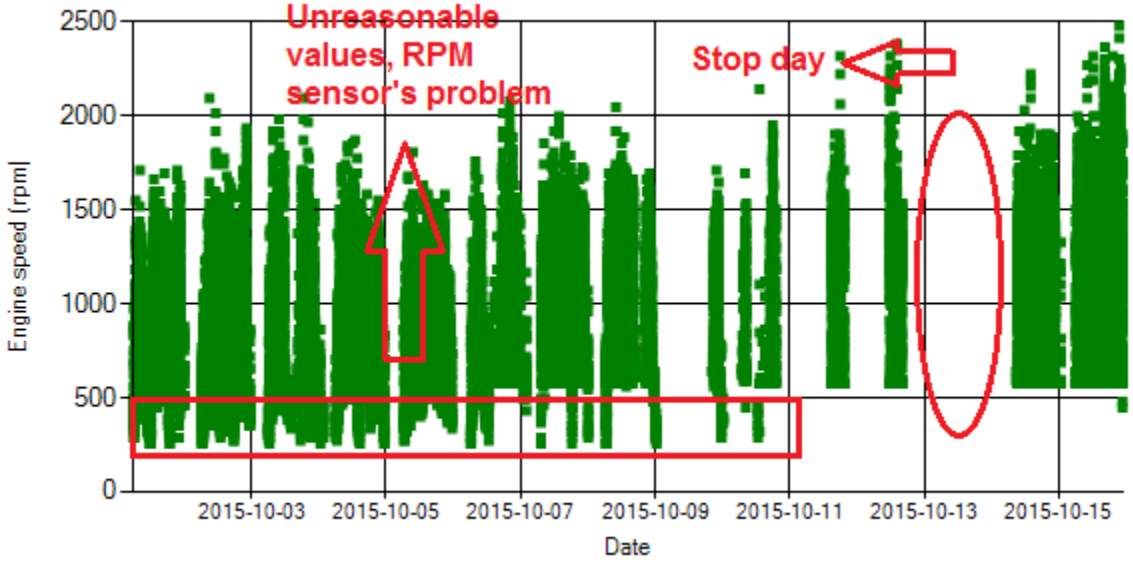

Figure 11- Engine speed diagram for calculating CPK's working days

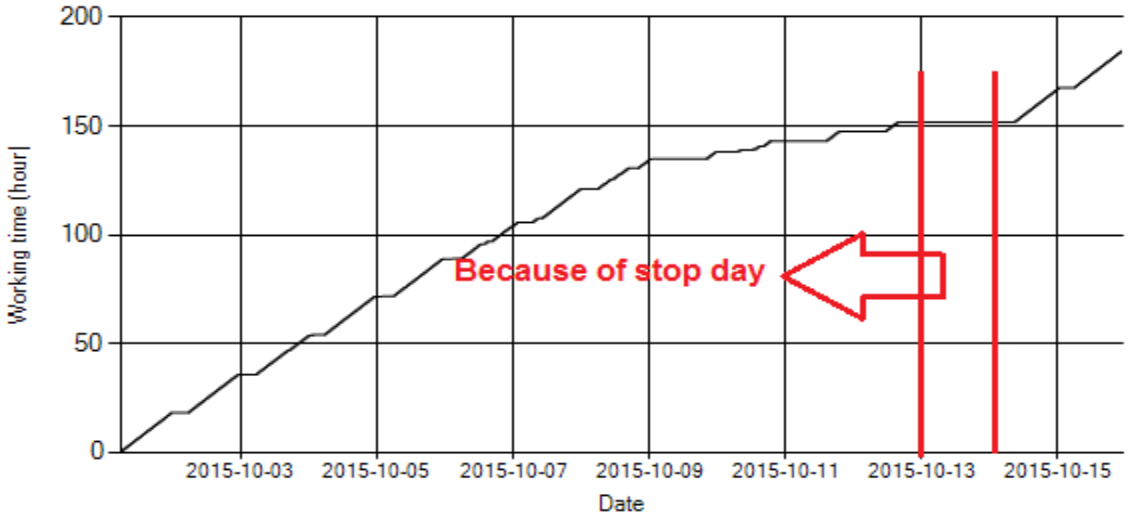

Figure 12- Time diagram for calculating CPK's working days

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, Nov 13th was stop day.

Pressure-Engine Speed diagrams

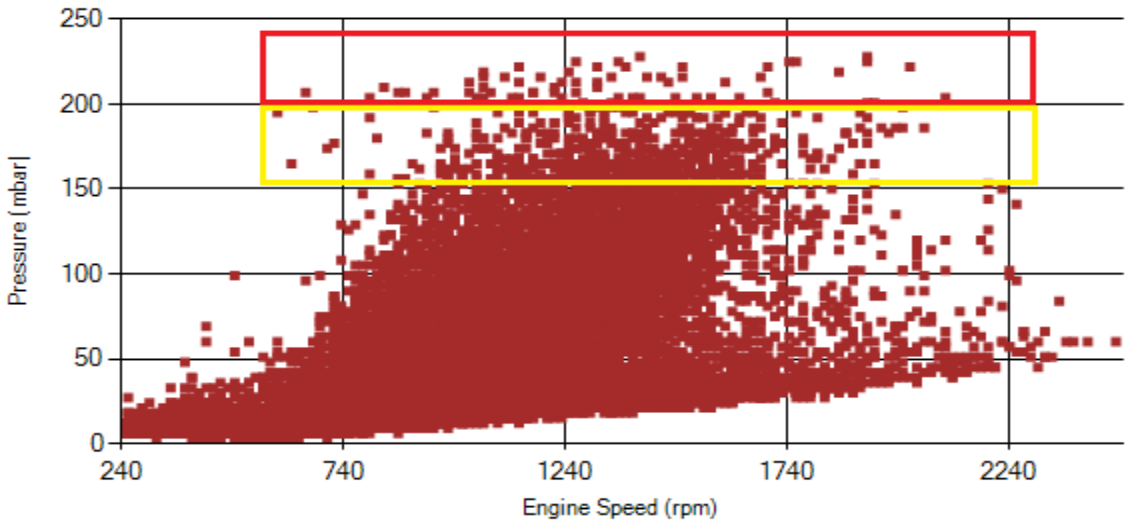

Figure 13- Pressure against engine speed

Notice: Red alarm (pressure>200 mbar) and yellow alarm (200>pressure>150) ranges were indicated in figure 13.

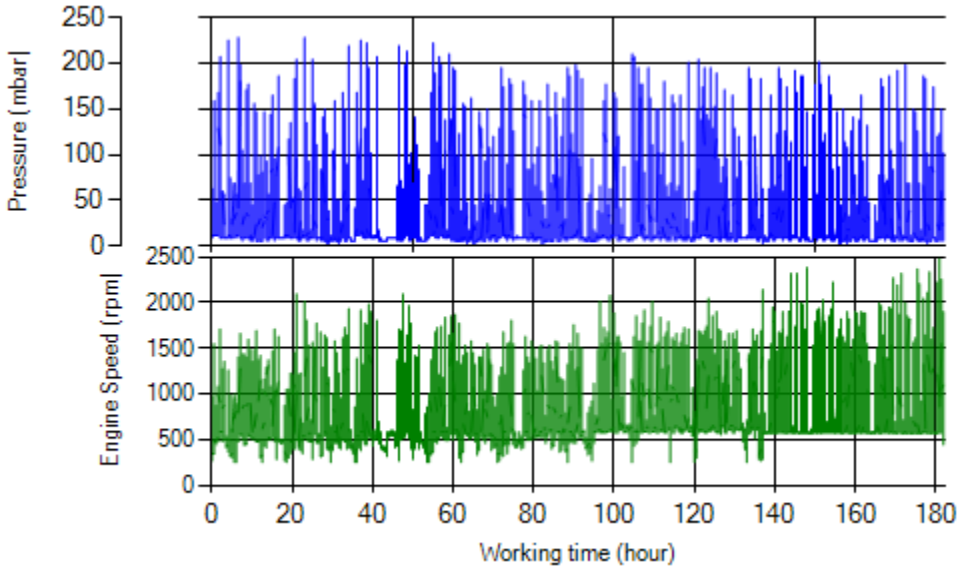

Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

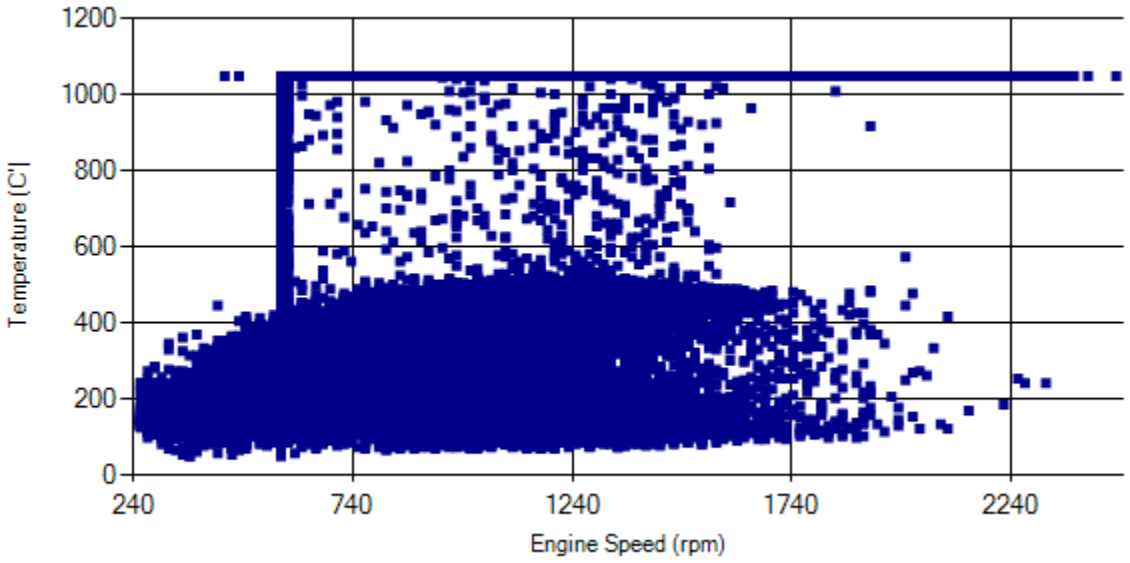

Figure 15- Temperature against engine speed

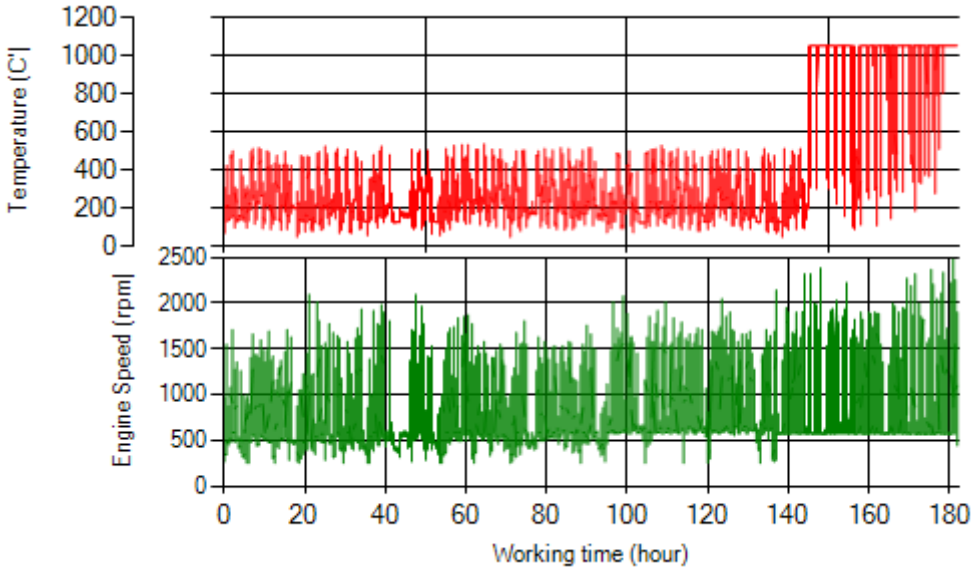

Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in figure 1, 0. 11% of total working time pressure is above 200 mbar and 1.35% above 150mbar.
- Considering October first ten days (figure 2), It can be obviously observed that 11% of total working-time temperature is above 400 ℃ and 18% above 350℃.

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