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/Aug/2015 – 15/Aug/2015 (fifteen days)
K value - DPF upstream	1.95 [1/m]
K value – DPF downstream	0.04 [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.

All right reserved by ASA company – confidential no passing to third parties.

Table 3- Fuel and Additive Consumption Information

Bus mileage (from DPF installation date)	26163 km
Bus mileage over the period	2246 km
Working days over the period	14 days
Stop days	1 days
Data logger working days	14 days
Working hours over the period	173 hours 19 minutes
Average working hours per day (including stop days)	11 hours 33 minutes
Bus average speed	12.95 km/hr
idle speed time to all working time ration	-
Total Bus fuel consumption over the period	1445 lit
Fuel consumption per hour	8.33 lit/hr
Average fuel consumption	0.64 lit/km
Total Bus additive consumption over the period	0.607 lit
Average additive consumption	270 cc/km
Additive consumption to fuel ration	420 cc per 1000 lit (batch dosing with tank level)

Notice: RPM sensor got problem on Aug 2nd and was fixed on Aug 15th. So during this period engine speed and its related data and diagrams are unreliable.

All right reserved by ASA company – confidential no passing to third parties.

Temperature, Pressure and Engine Speed Overview

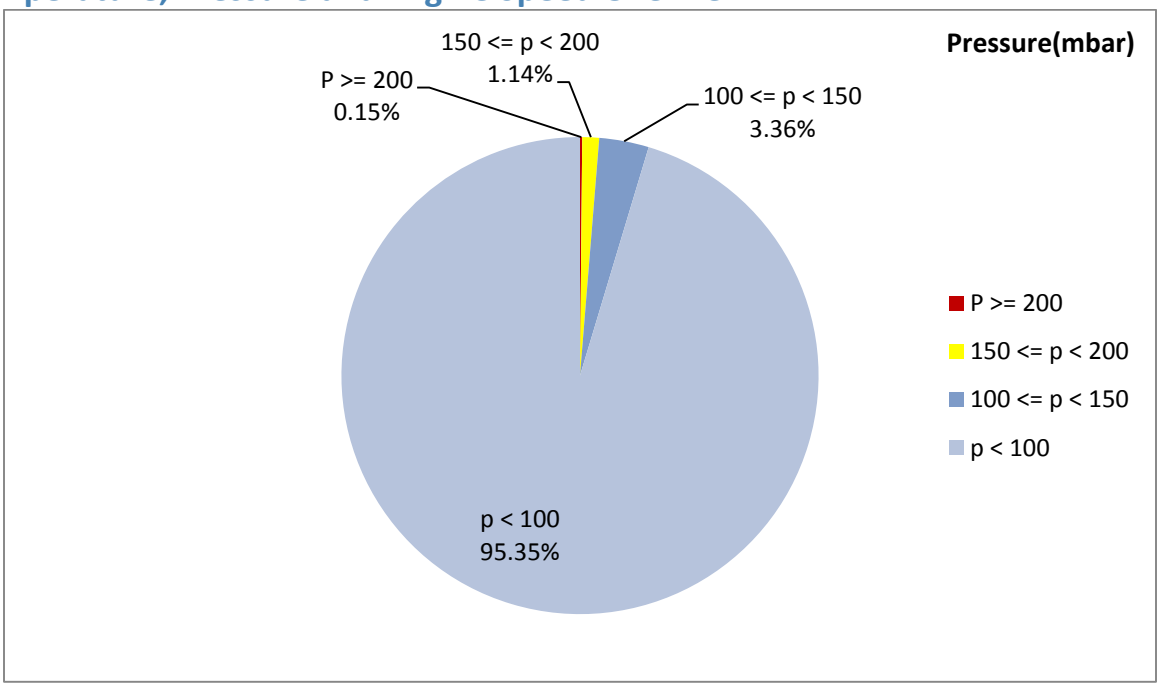

Figure 1- Pressure distribution over the working hours

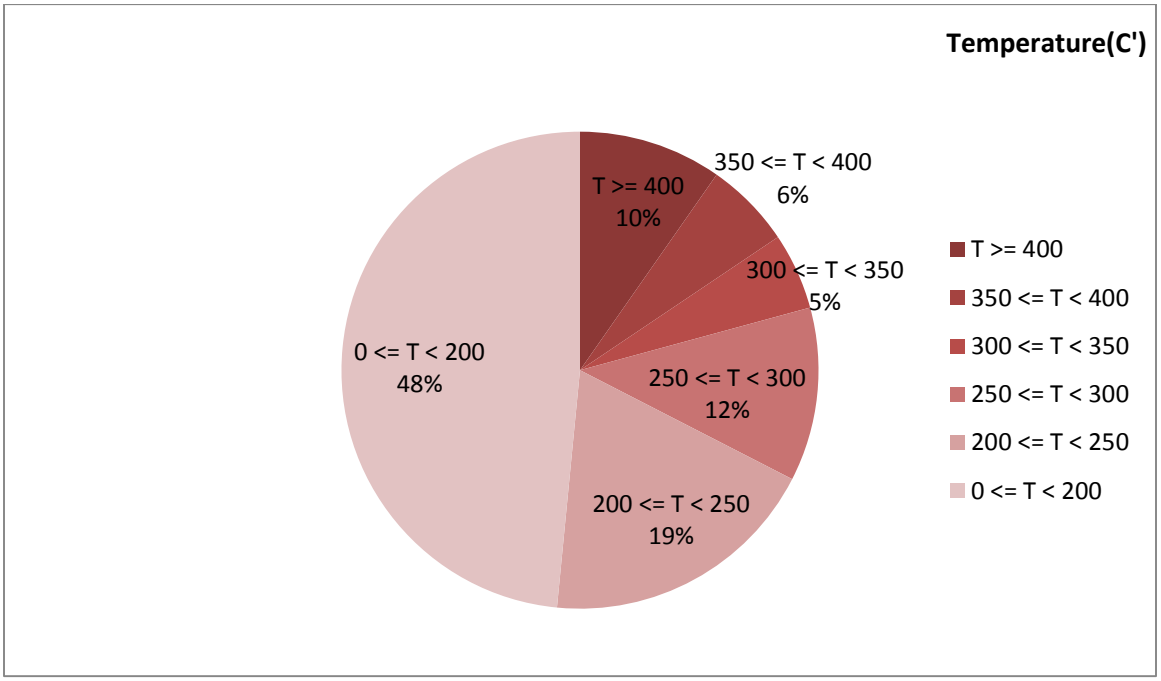

Figure 2-Temperature distribution over the working hours

All right reserved by ASA company – confidential no passing to third parties.

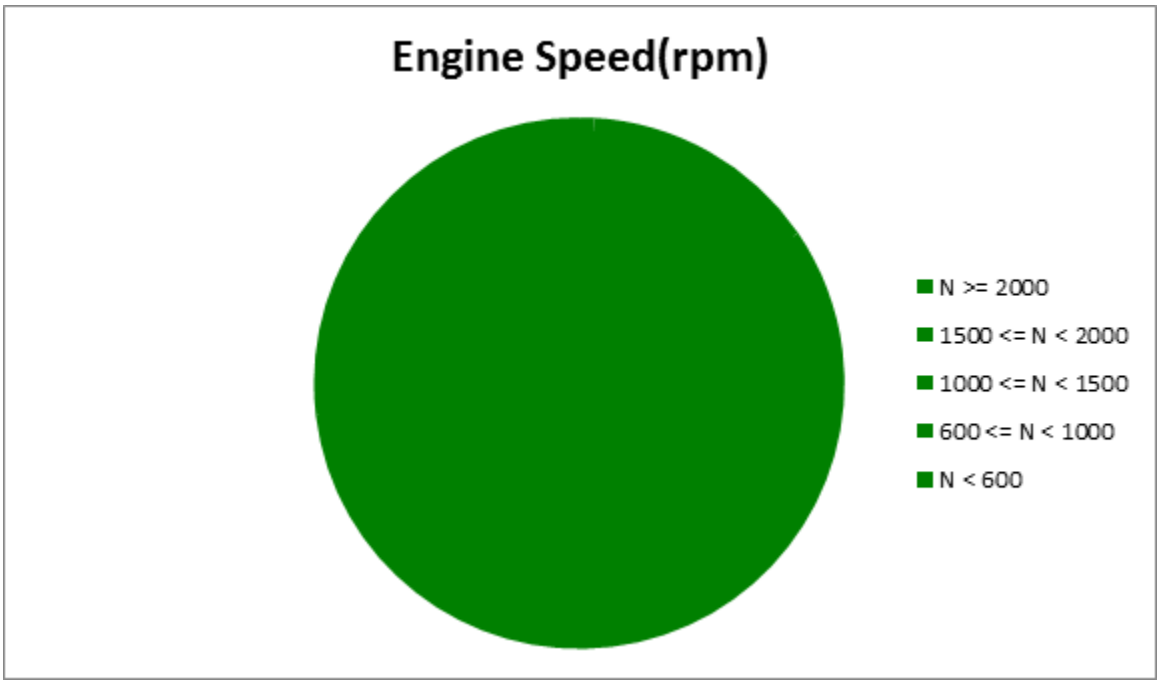

Figure 3- Engine speed distribution over the working hours

Notice: RPM sensor got problem on Aug 2nd and was fixed on Aug 15th. So during this period engine speed and its related data and diagrams are unreliable.

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
228.68	22.13	-

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)
554-50	240-0	-

All right reserved by ASA company – confidential no passing to third parties.

Detailed Pressure Analysis

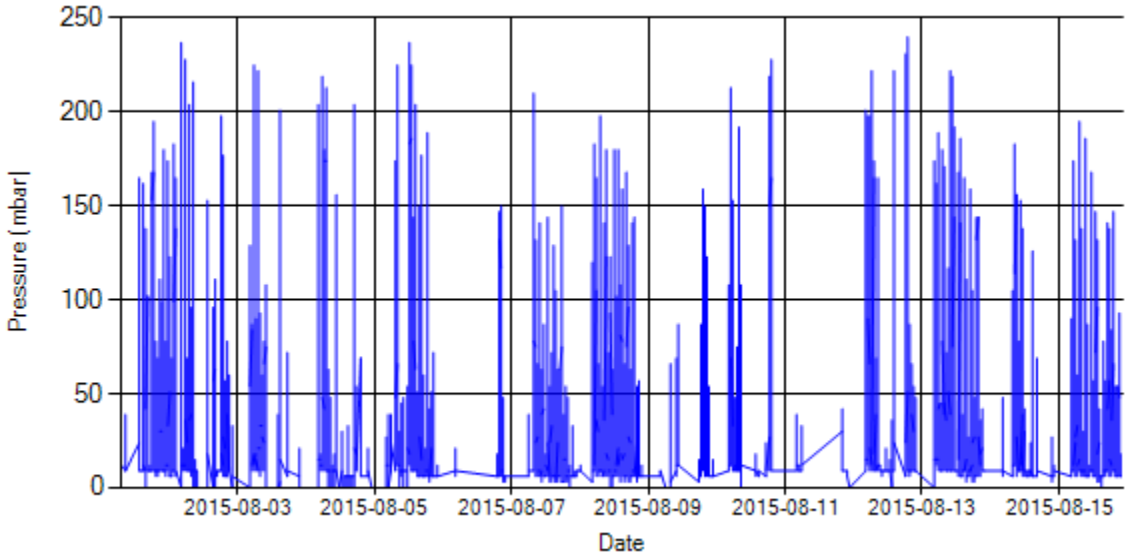

Figure 4- Pressure distribution over the period

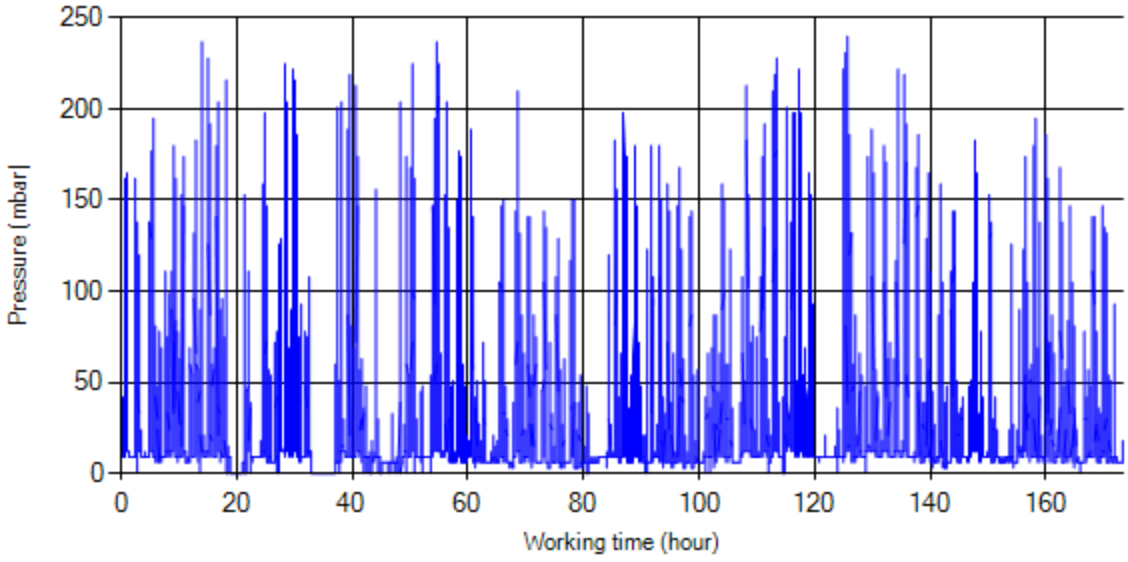

Figure 5- Pressure vs. working hours

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.

All right reserved by ASA company – confidential no passing to third parties.

Detailed Temperature Analysis

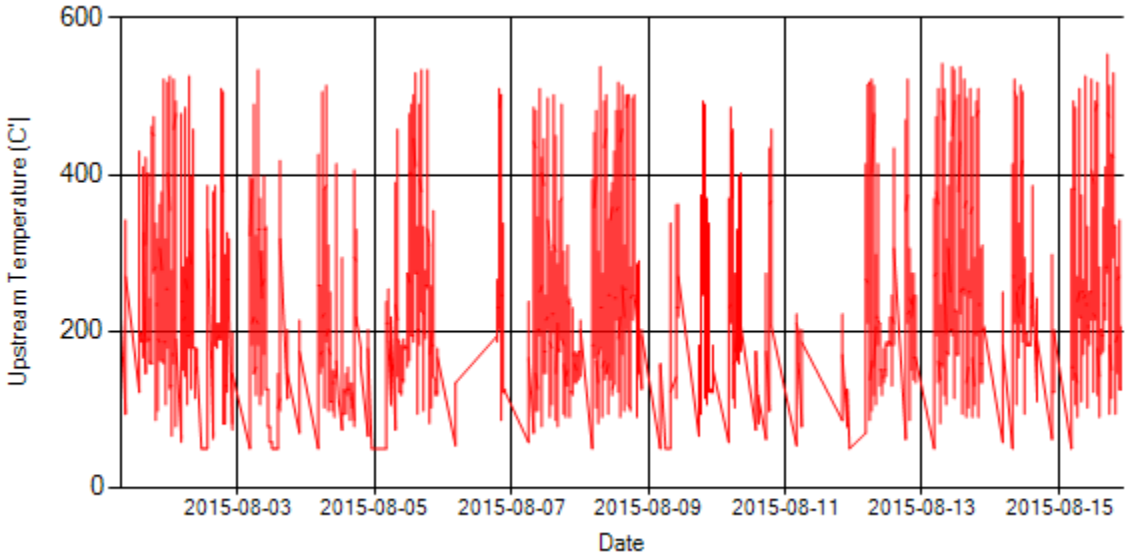

Figure 6- Temperature distribution over the period

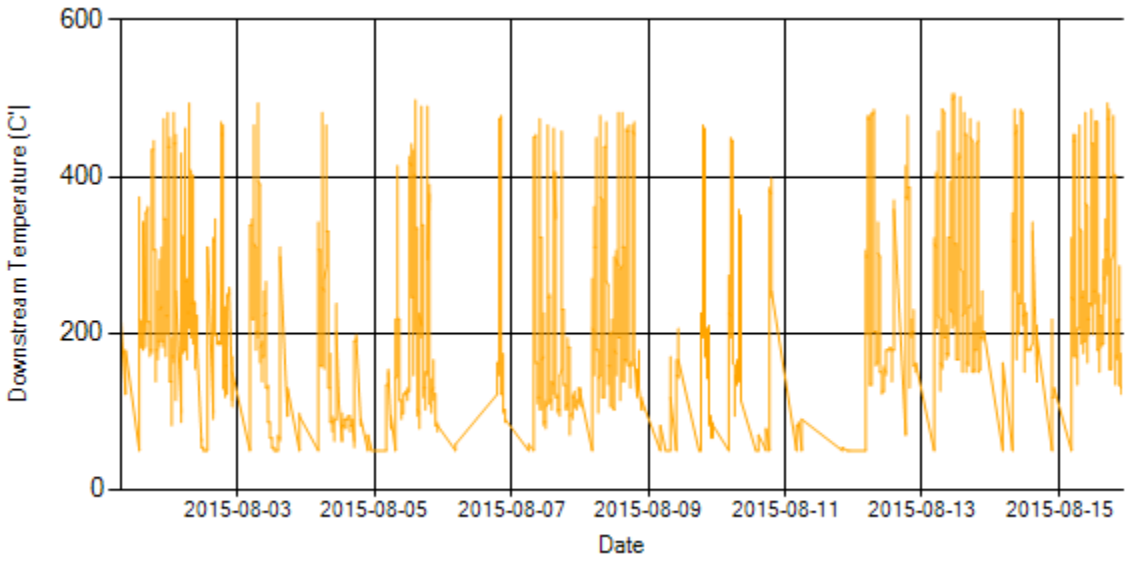

Figure 7- Temperature distribution over the period

All right reserved by ASA company – confidential no passing to third parties.

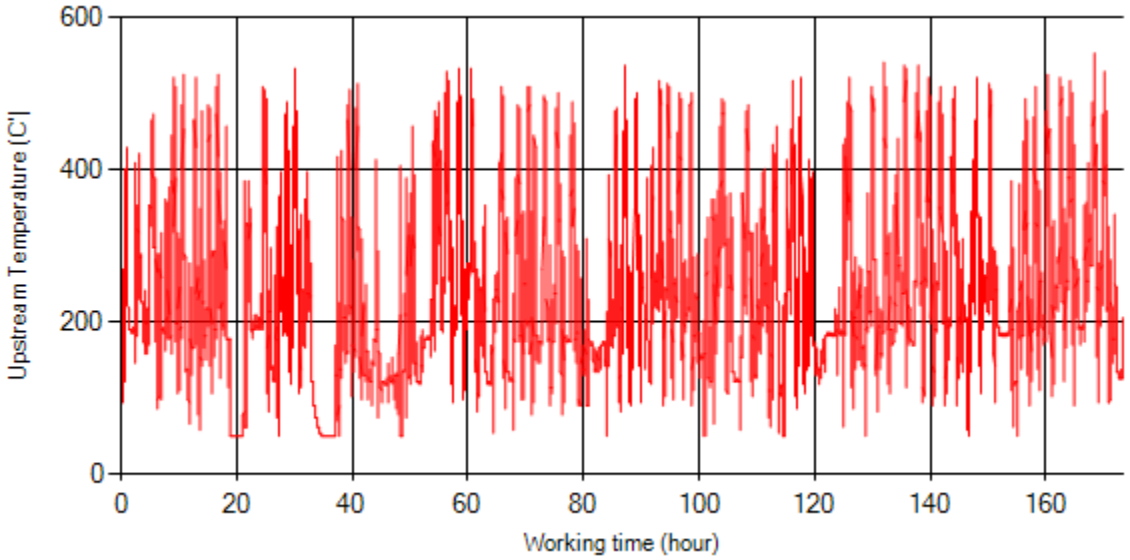

Figure 8- Temperature vs. working hours

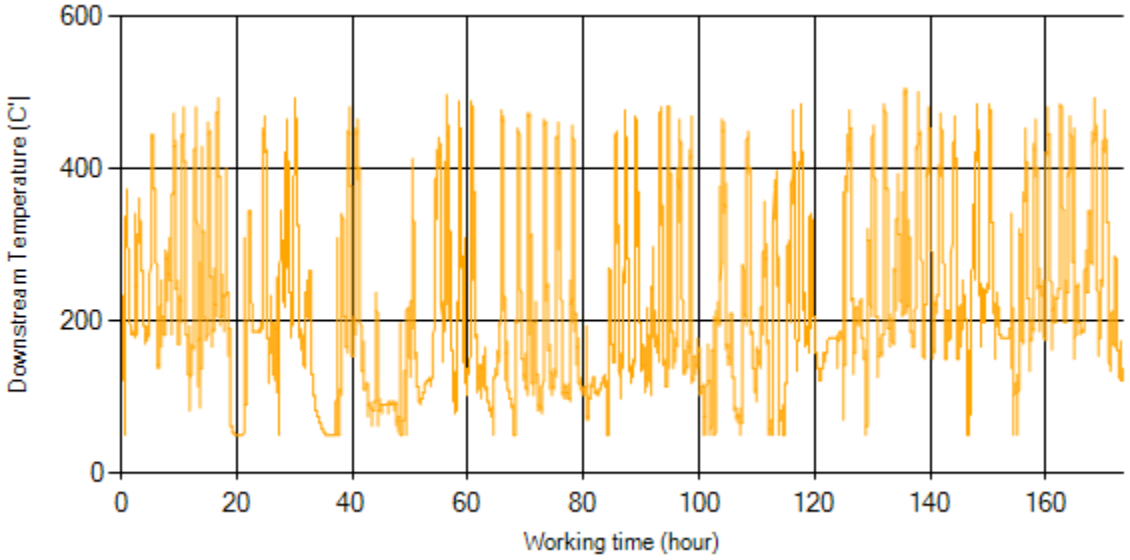

Figure 9- Temperature vs. working hours

All right reserved by ASA company – confidential no passing to third parties.

Engine Speed Diagrams

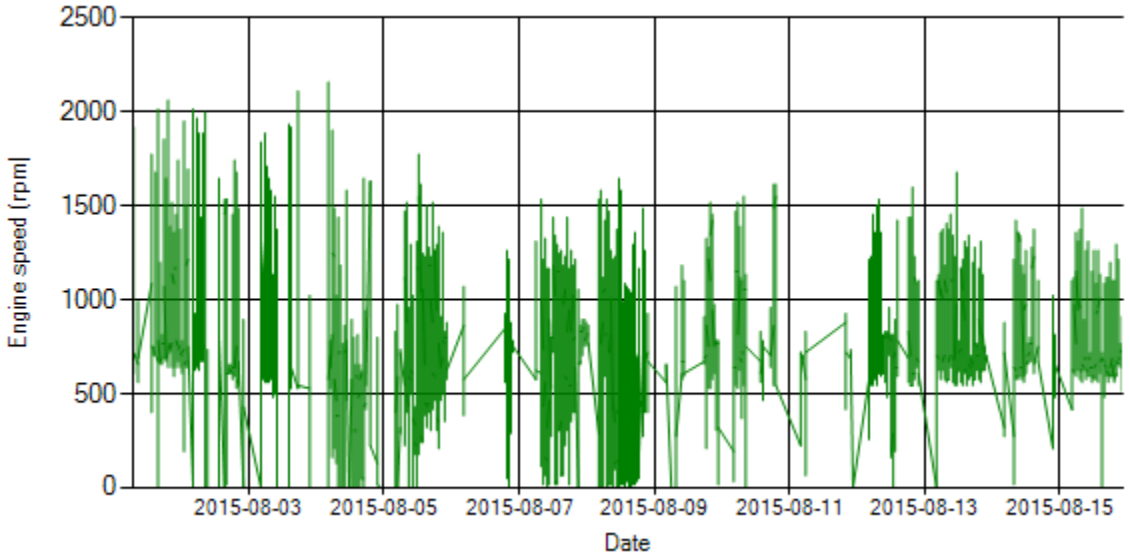

Figure 10- Engine speed distribution over the period

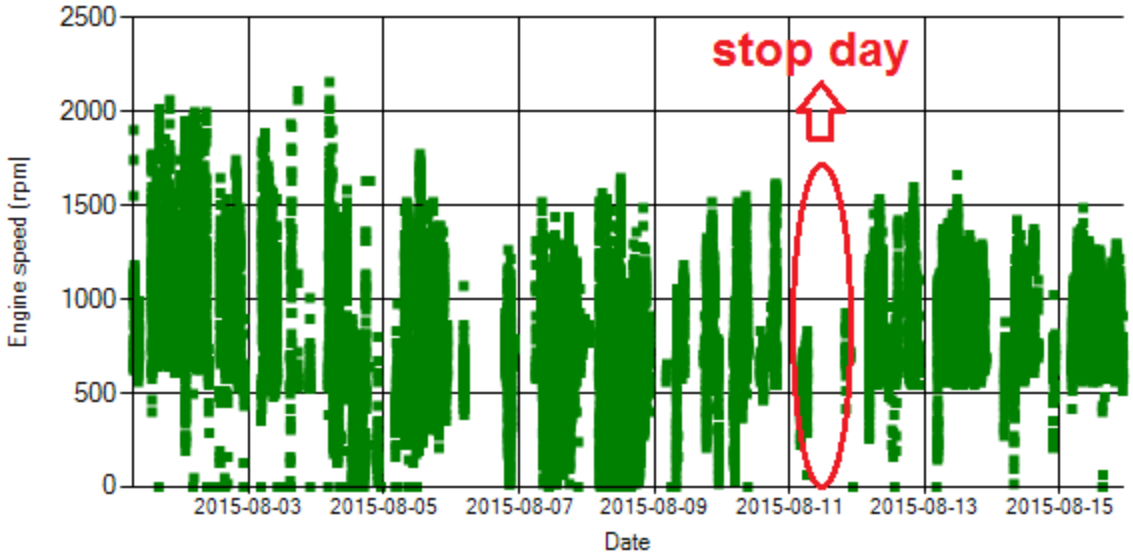

Figure 11- Engine speed diagram for calculating CPK's working days

All right reserved by ASA company – confidential no passing to third parties.

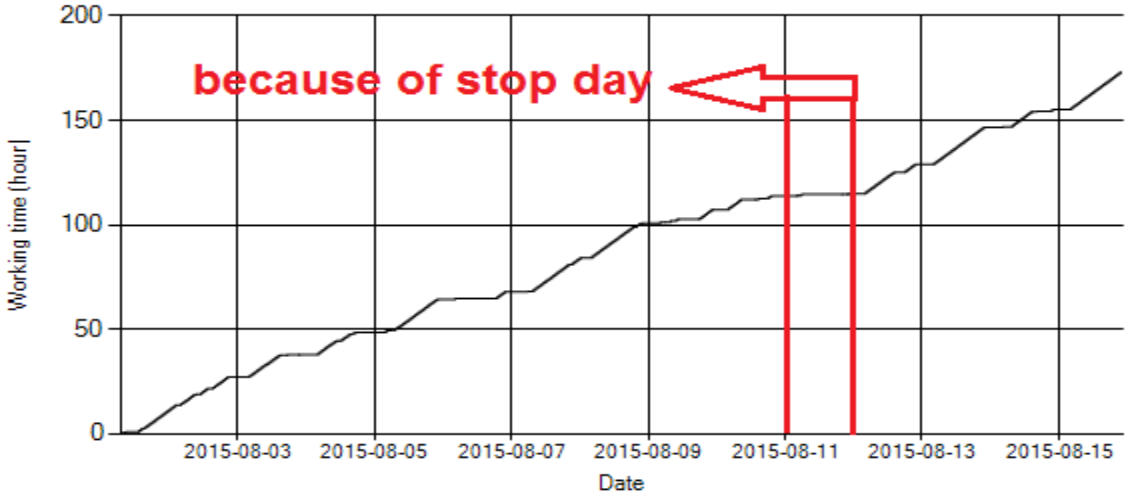

Figure 12- Time diagram for calculating CPK's working days

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

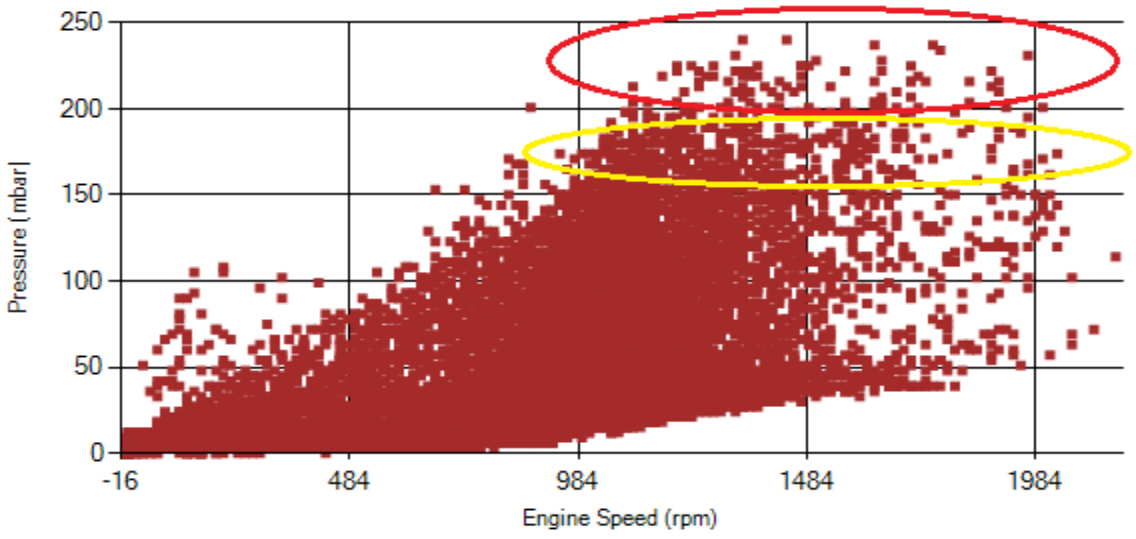

Figure 13- Pressure against engine speed

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

All right reserved by ASA company – confidential no passing to third parties.

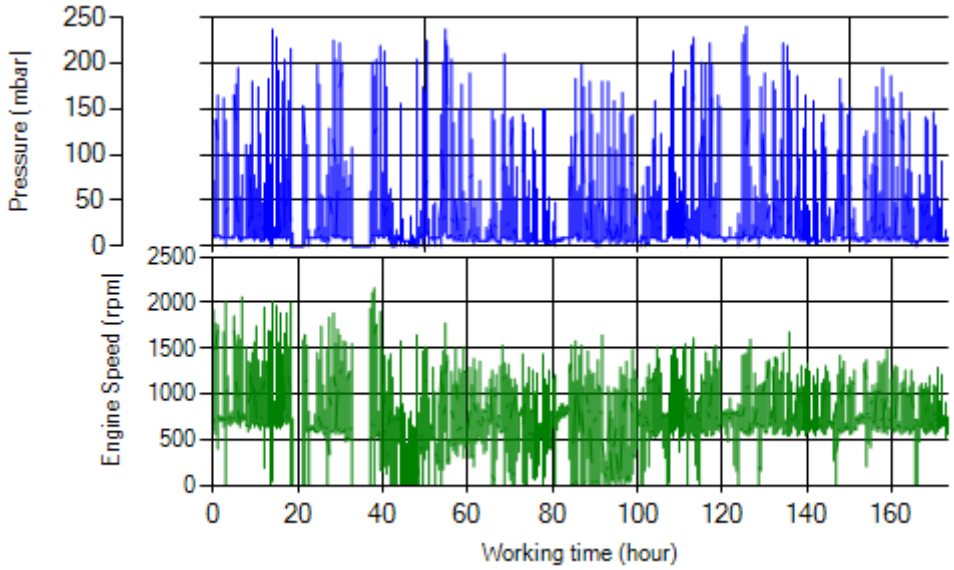

Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

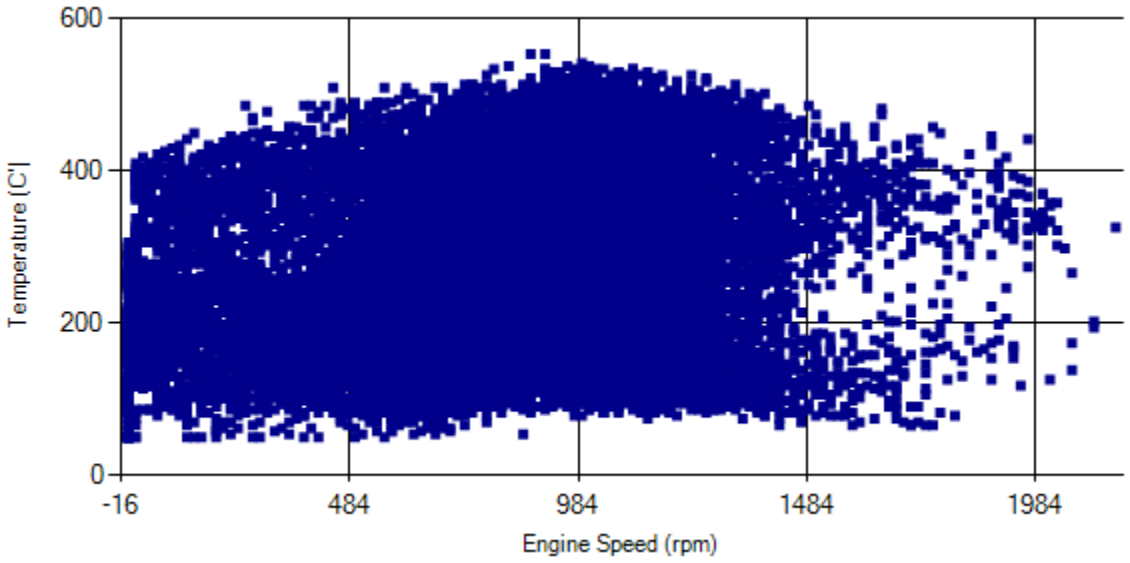

Figure 15- Temperature against engine speed

All right reserved by ASA company – confidential no passing to third parties.

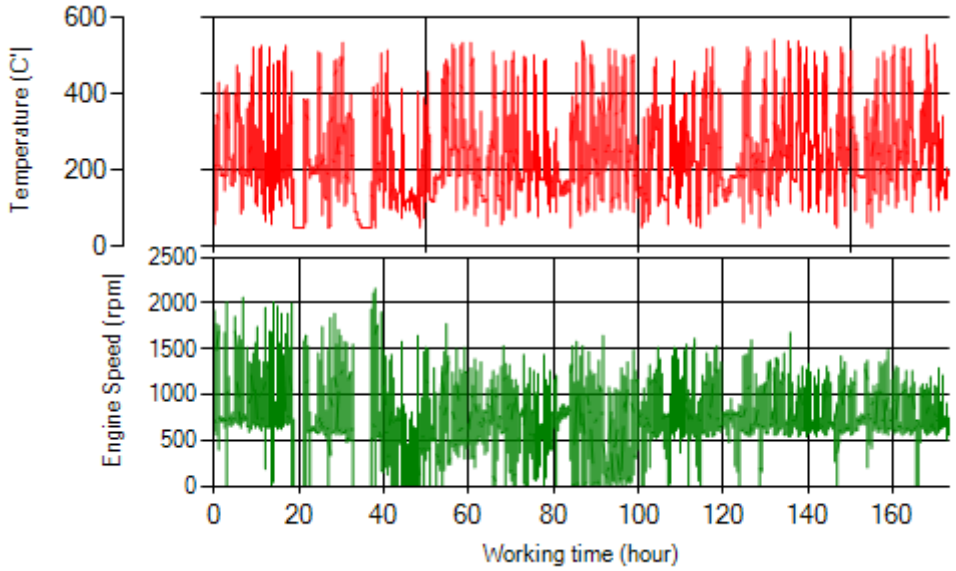

Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in figure 1, 0.15% of total working time pressure is above 200 mbar and 1.39% above 150mbar.
- Figure 2 displays flow temperature distribution for DPF's upstream. It can be obviously observed that 10% of total working-time temperature is above 400 ℃ and 26% above 350℃.

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

All right reserved by ASA company – confidential no passing to third parties.