

## Overall Information

*Table1- Overall Information*

Vehicle plate number	85182
CPK data logger number	LN: 001502, DN: 1999
Bus line	Number 10 (south to north Bus line)
Bus Terminals	Azadi square - Daneshgah square
Total path distance	10.7 km
DPF producer company	Tehag_01 (Catalyzed DPF)
Installation date	24/Sep/2015
Report period	01/Oct/2015 – 15/Oct/2015 (fifteen days)
K value - DPF upstream	1.86 [1/m]
K value – DPF downstream	0.02 [1/m]

*Table 2- DPF Maintenance History*

Filter maintenance date	Filter have been working from installation date without any cleaning.
Dosing status	This system doesn't use additive

*Table 3- Fuel and Additive Consumption Information*

Bus mileage (from DPF installation date)	1393 km
Bus mileage over the period	727 km
Working days over the period	9 days
Stop days	6 days
Data logger working days	9 days
Working hours over the period	93 hours 28 minutes
Average working hours per day (including stop days)	6 hours 13 minutes
Bus average speed	7.78 km/hr
idle speed time to all working time ration	72.26 %
Total Bus fuel consumption over the period	419 lit
Fuel consumption per hour	4.48 lit/hr
Average fuel consumption	0.58 lit/km
Total Bus additive consumption over the period	- lit
Average additive consumption	- cc/km
Additive consumption to fuel ration	- cc/1000lit

Notice: This system doesn't use additive (CDPF).

## Temperature, Pressure and Engine Speed Overview

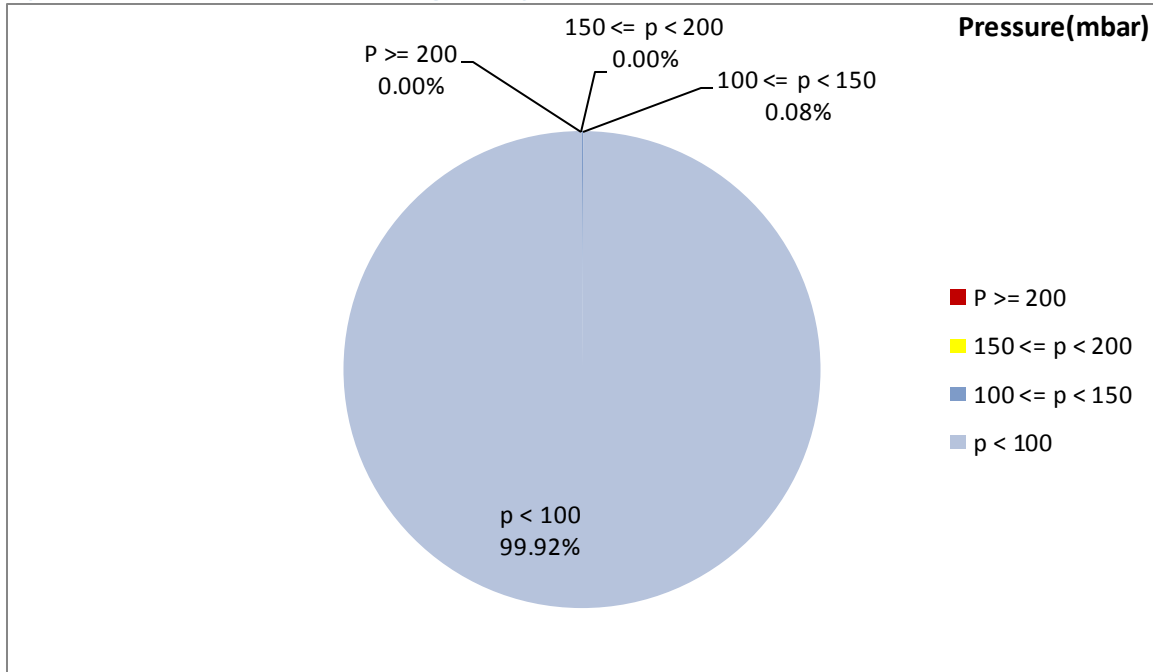


Figure 1- Pressure distribution over the working hours

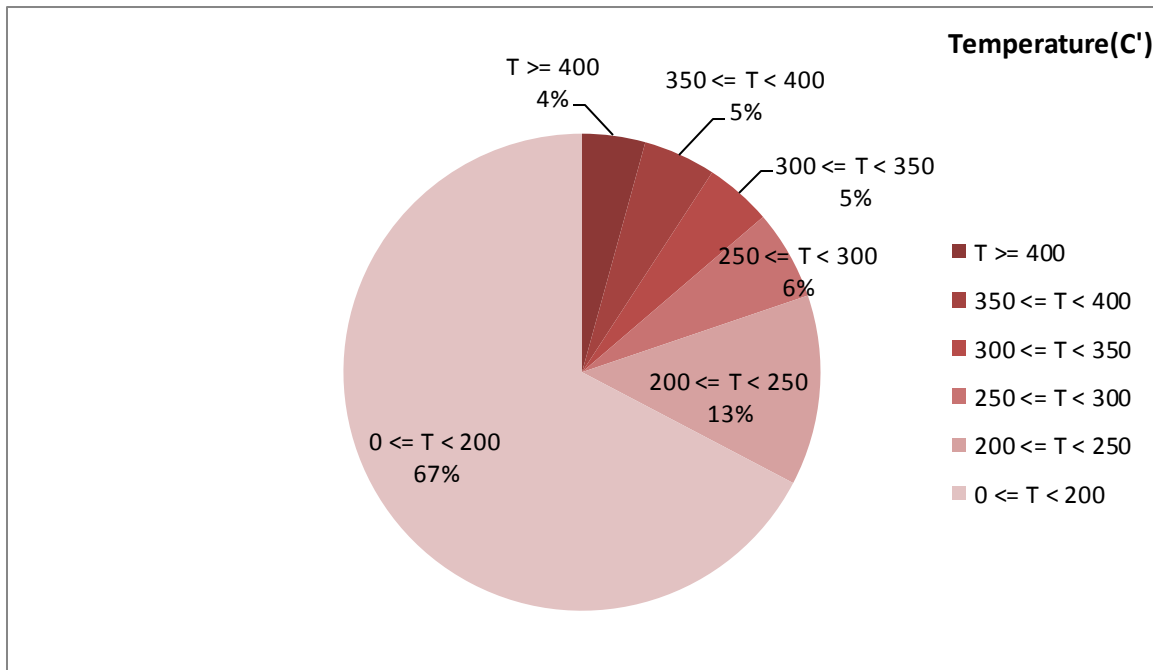


Figure 2-Temperature distribution over the working hours

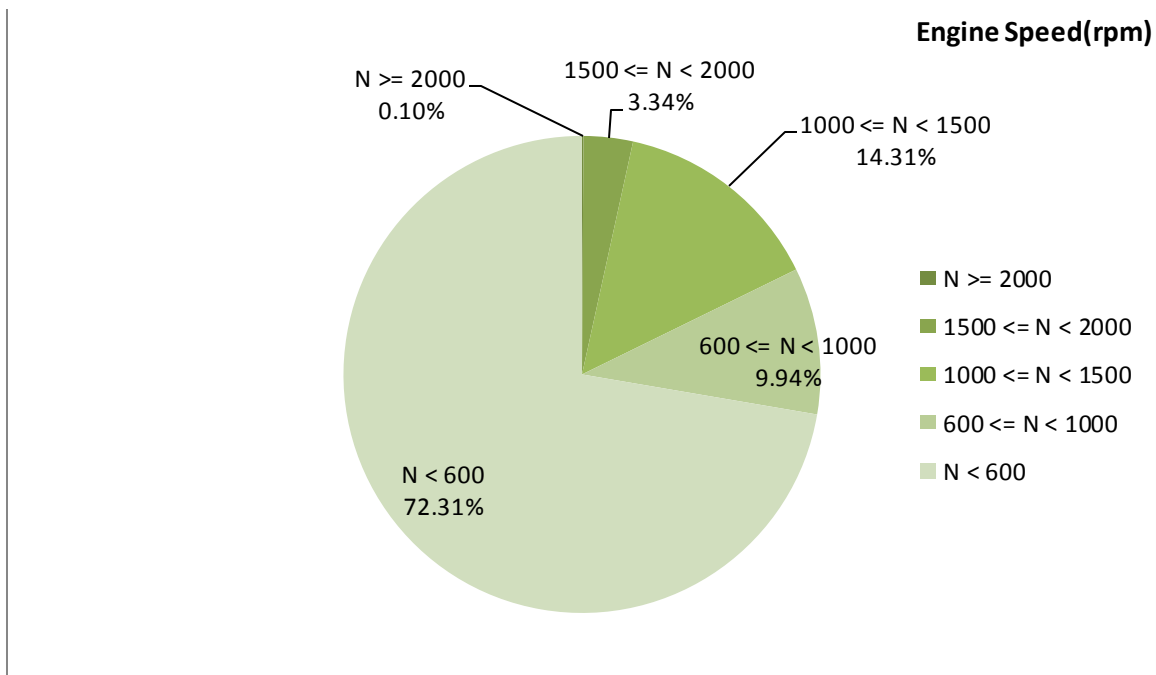


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
195.69	4.46	706

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
271.23	15.69	1124

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
522-50	114-0	2416-256

## Detailed Pressure Analysis

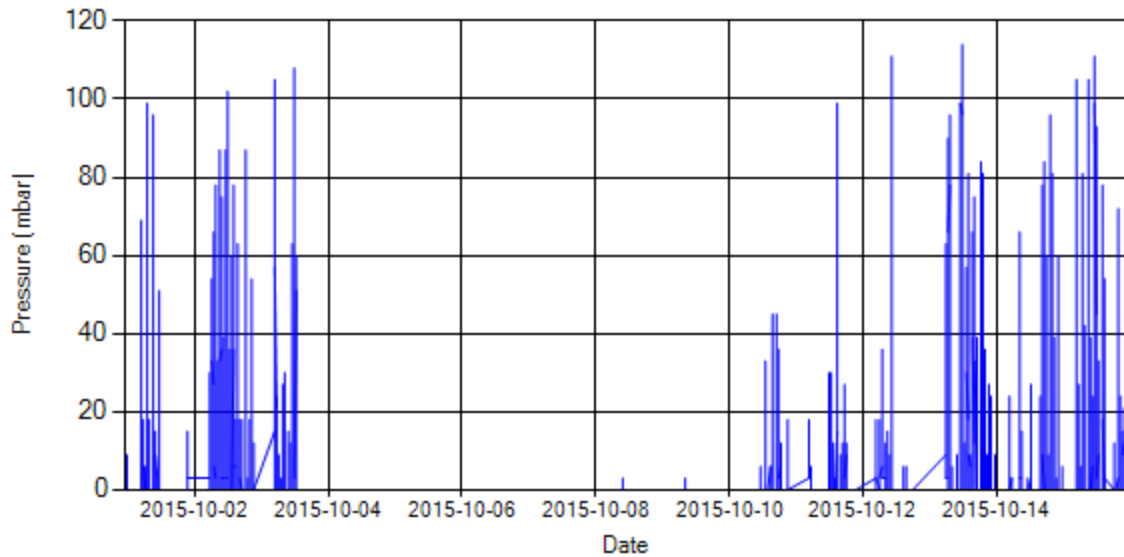


Figure 4- Pressure distribution over the period

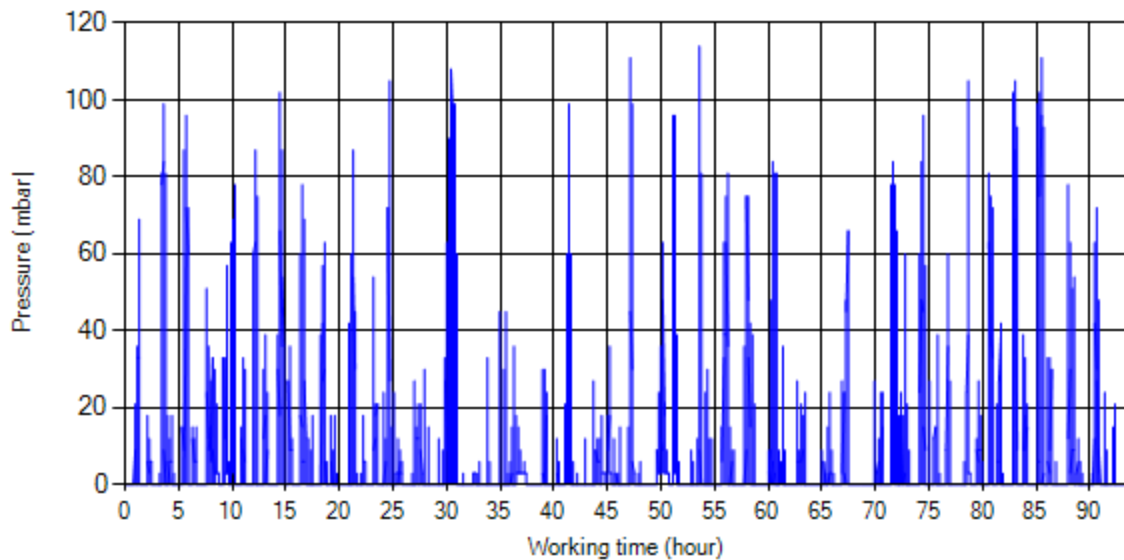


Figure 5- Pressure vs. working hours

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

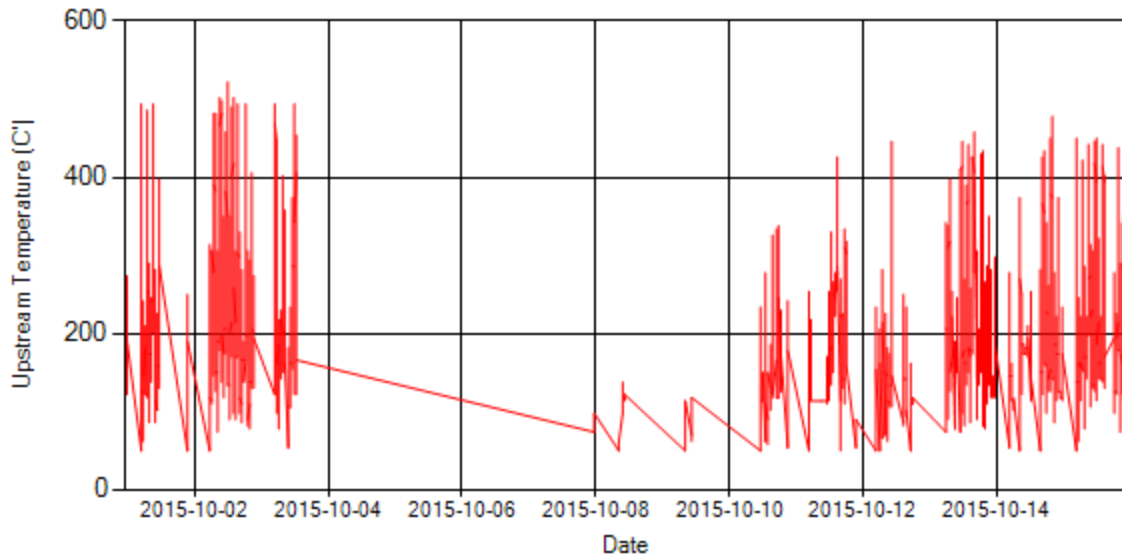


Figure 6- Temperature distribution over the period

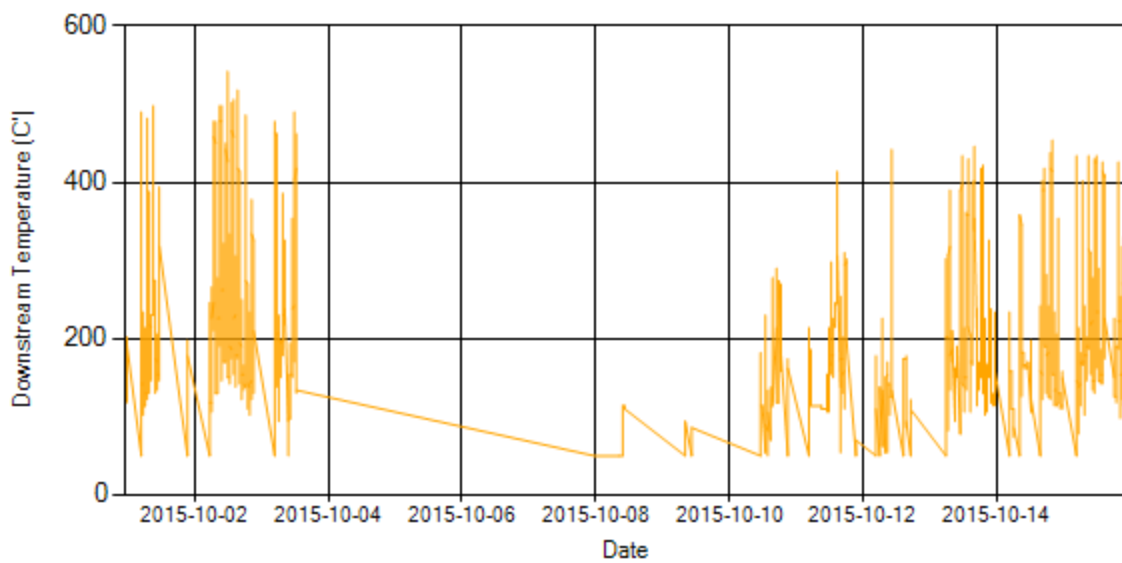


Figure 7- Temperature distribution over the period

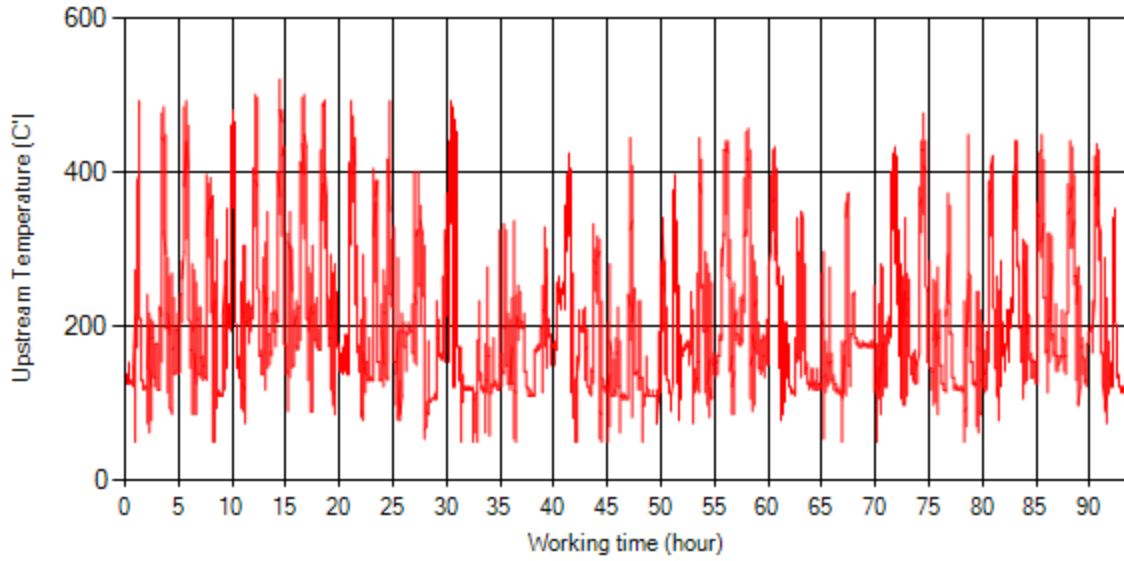


Figure 8- Temperature vs. working hours

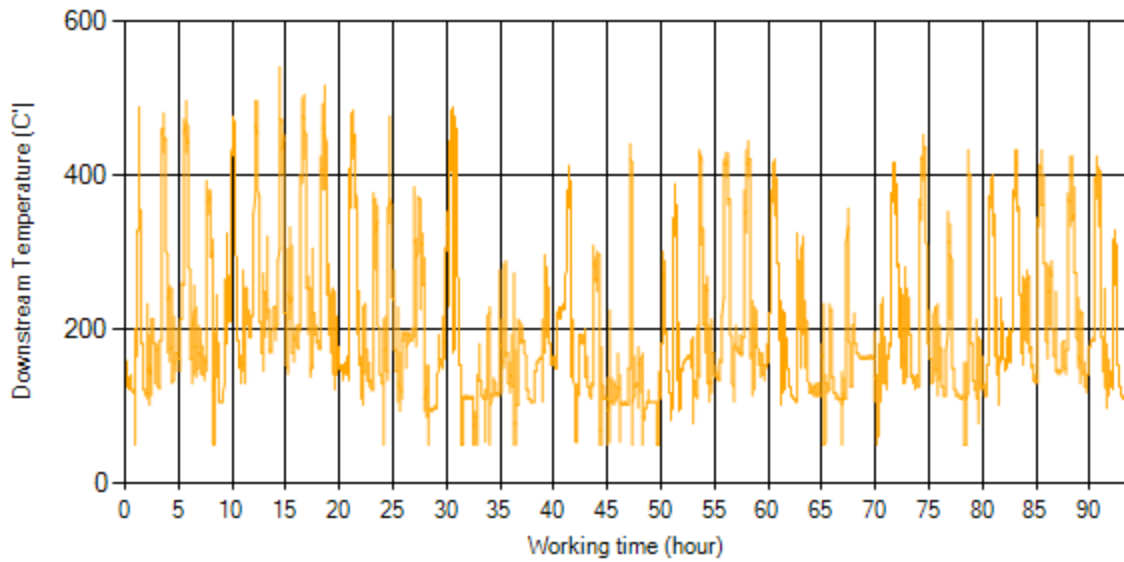


Figure 9- Temperature vs. working hours

## Engine Speed Diagrams

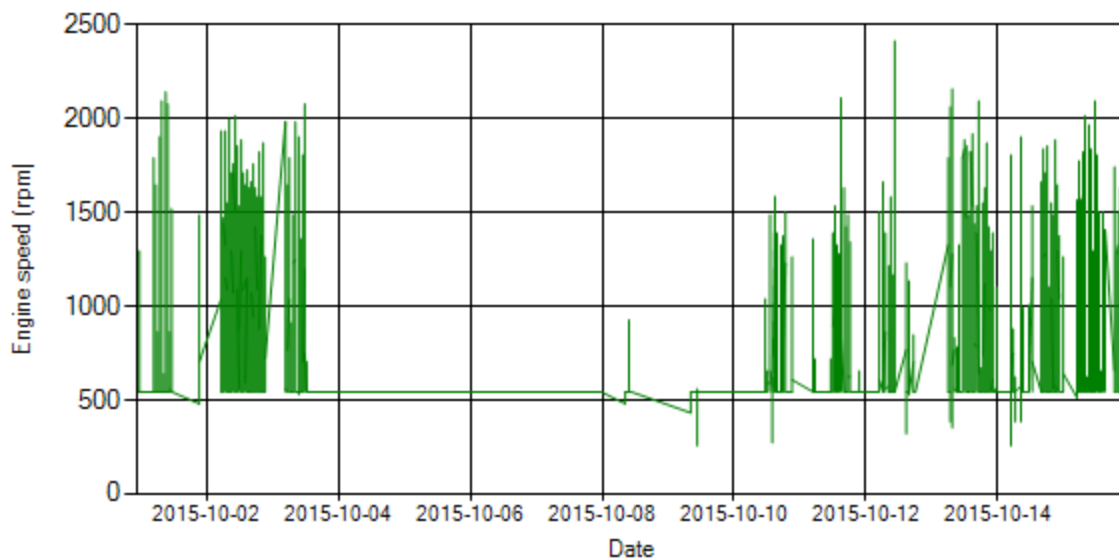


Figure 10- Engine speed distribution over the period

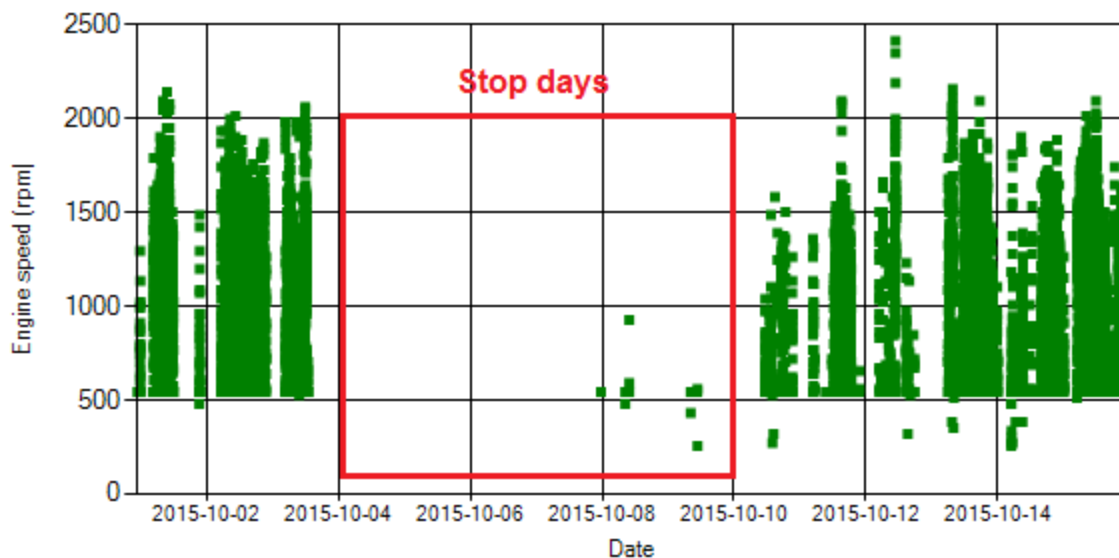


Figure 11- Engine speed diagram for calculating CPK's working days



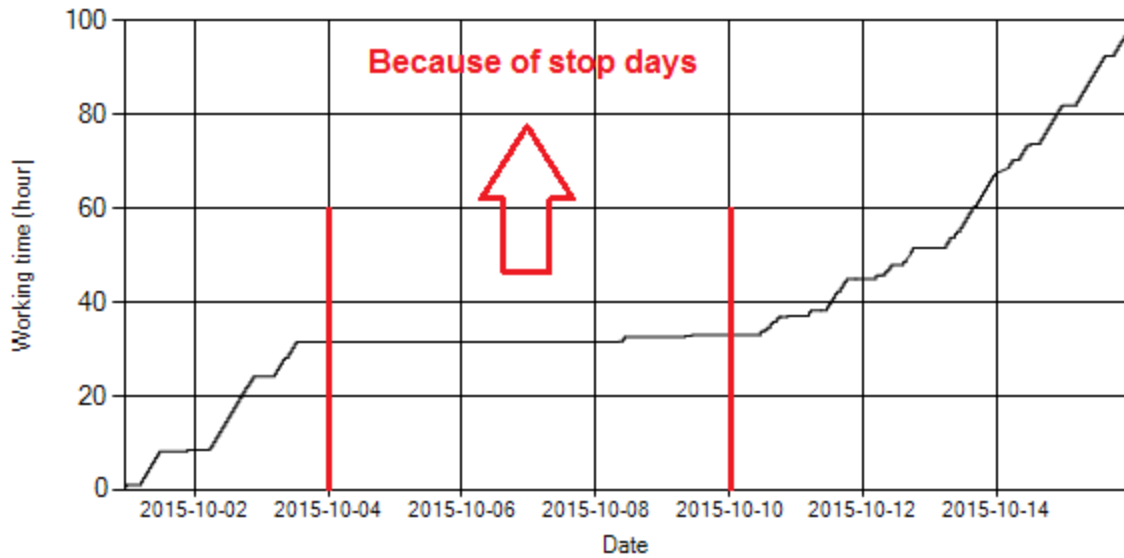


Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data.

### Pressure-Engine Speed diagrams

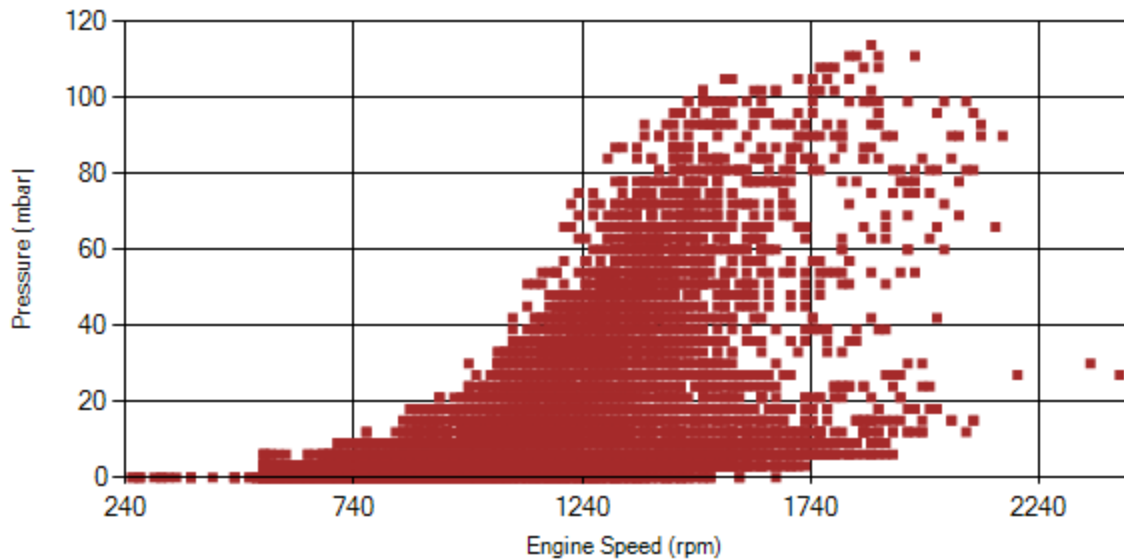


Figure 13- Pressure against engine speed

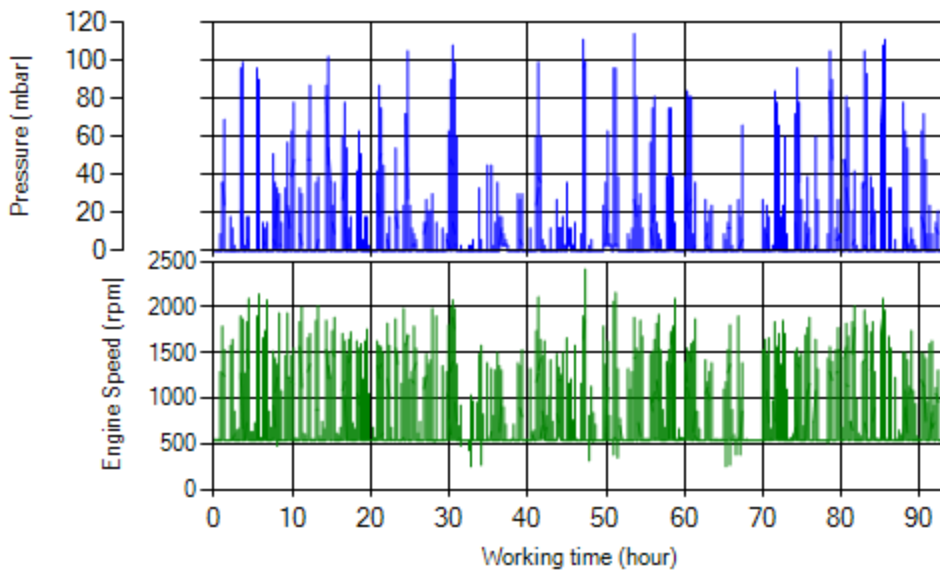


Figure 14- P, N distribution vs. working hours

### Temperature-Engine Speed diagrams

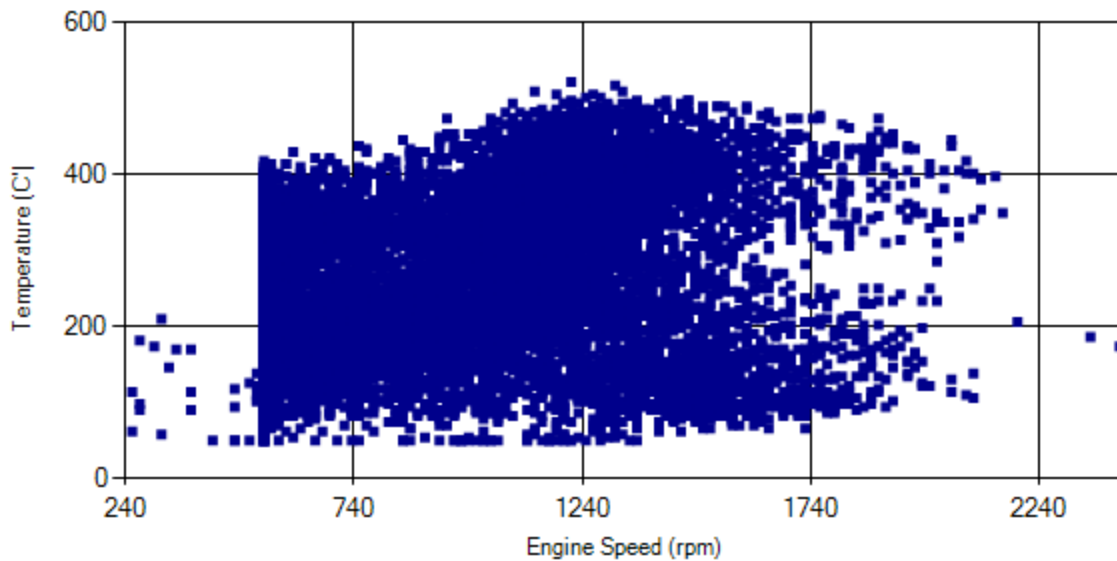


Figure 15- Temperature against engine speed

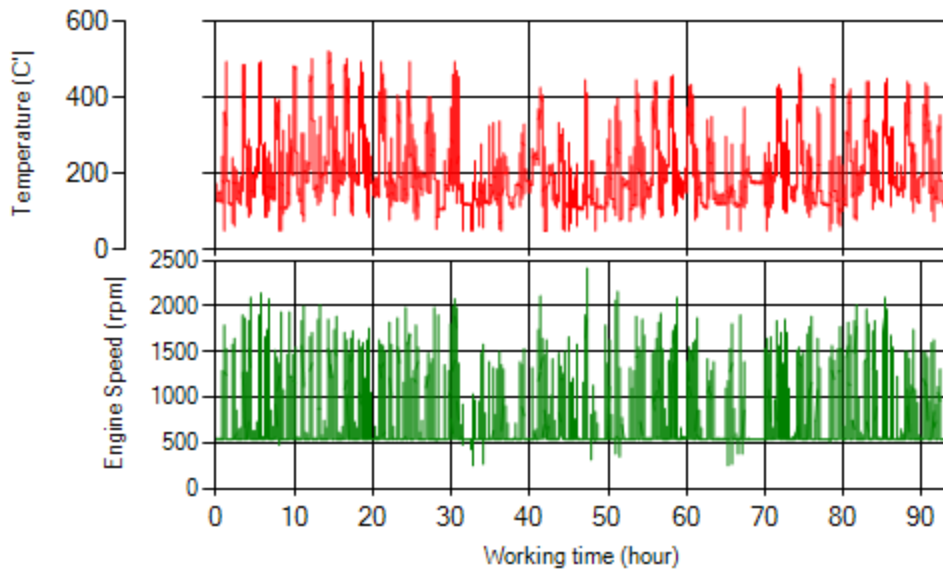


Figure 16- T, N distribution vs. working hours

### Filter Operation Analysis

- As depicted in figure 1, only 0.08% of working time pressure was above 100 mbar during this period.
- Figure 2, 17 display flow temperature distribution for DPF's upstream. It can be obviously observed that 9% of total working-time temperature is above 350 °C and 19% above 250°C. Considering DPF company recommended operable situation (30% above 250°C), beside high idle working time (72%) during this period, it could be concluded this DPF operation was fantastic during this period.

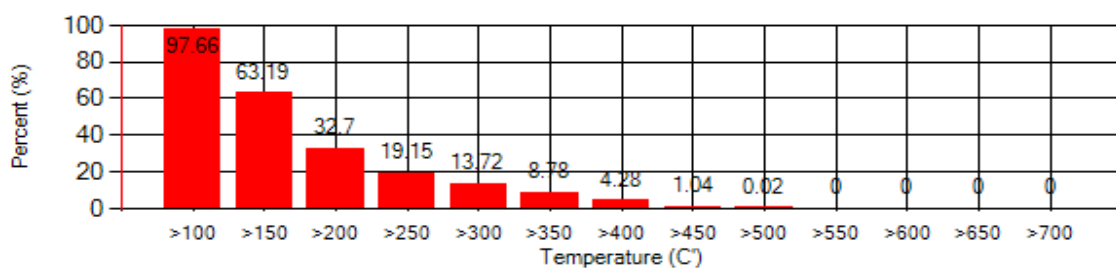


Figure 17. Cumulative diagram of exhaust gas temperature

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