

Overall Information

Table1- Overall Information

Vehicle plate number	78514
CPK data logger number	LN: 001496, DN: 1914, Sim +989218355923
Bus line	Number 4 (south to north bus line)
Bus Terminals	Tehran South Bus Terminal - Park Way Bus Terminal
Total path distance	22.8 km
DPF producer company	HJS_01 (Passive system with FBC)
Installation date	10/Sep/2014
Report period	01/May/2016 – 15/May/2016 (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 core was cleaned on Jun 13 th .
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)	81319 km
Bus mileage over the period	866 km
Working days over the period	11 days
Stop days	4 days
Data logger working days	11 days
Working hours over the period	61 hours 0 minutes
Average working hours per day (including stop days)	4 hours 4 minutes
Bus average speed	14.2 km/hr
idle speed time to all working time ration	55.22 %
Total Bus fuel consumption over the period	511 lit
Fuel consumption per hour	8.4 lit/hr
Average fuel consumption	0.59 lit/km
Total Bus additive consumption over the period	0.244 lit
Average additive consumption	282 cc/km
Additive consumption to fuel ration	479 cc/1000lit

Temperature, Pressure and Engine Speed Overview

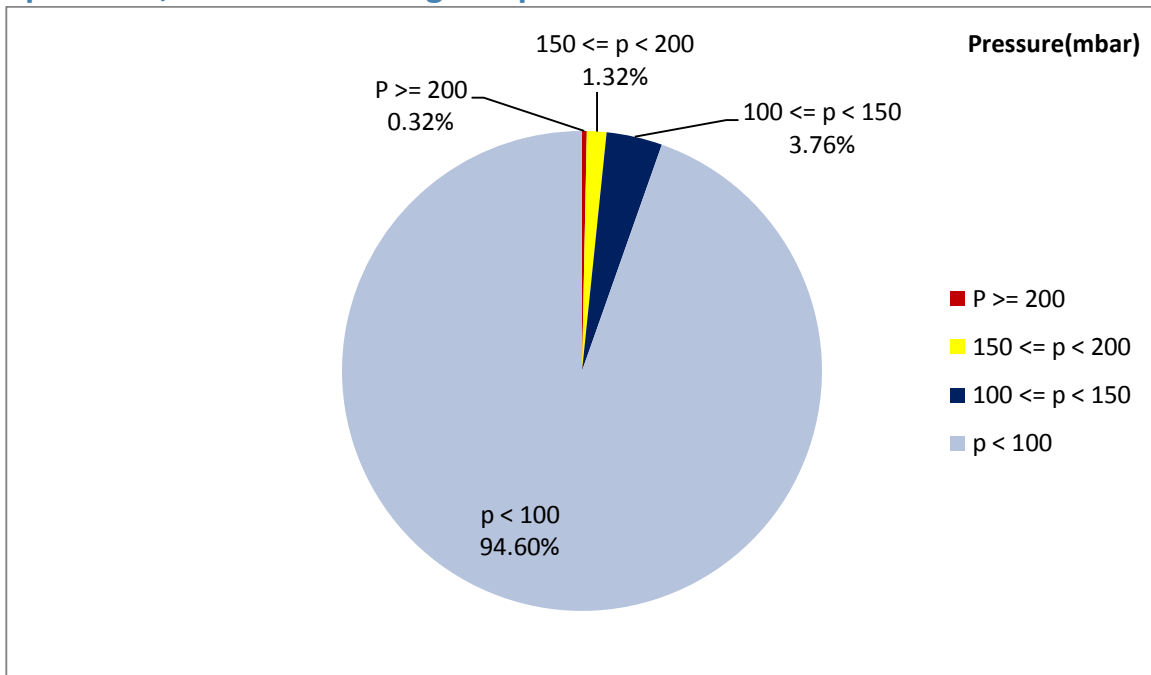


Figure 1- Pressure distribution over the working hours

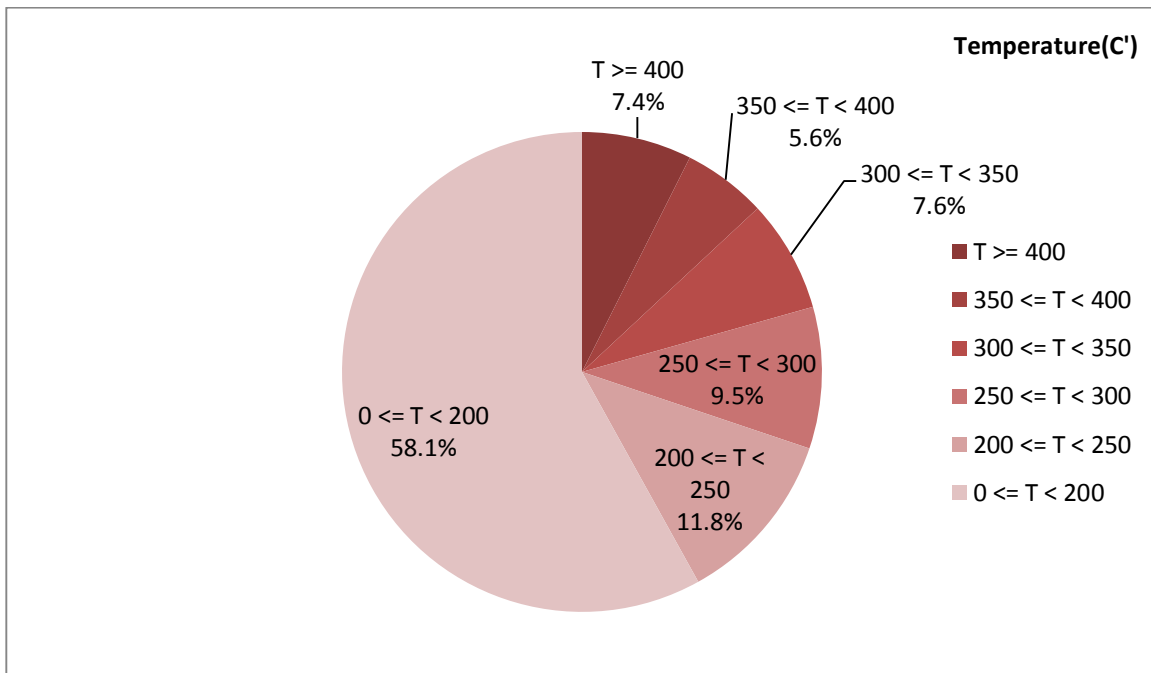


Figure 2-Temperature distribution over the working hours

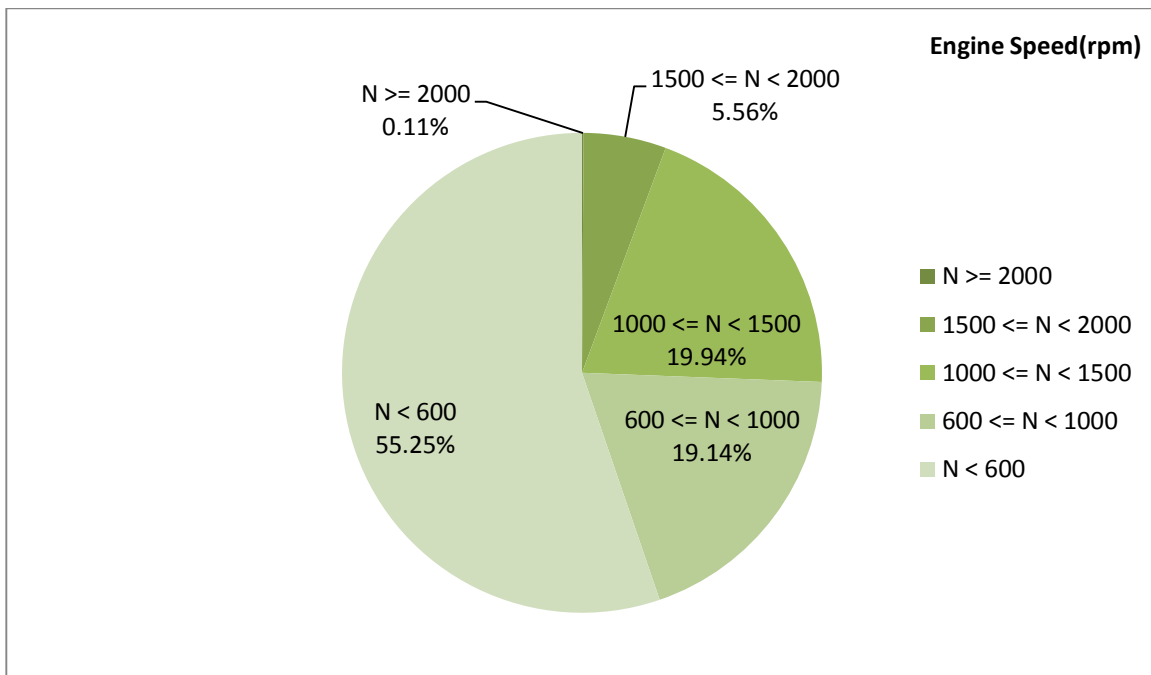


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
217.8	24.19	791

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
281.03	45.69	1094

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
526-50	252-0	2160-256

Detailed Pressure Analysis

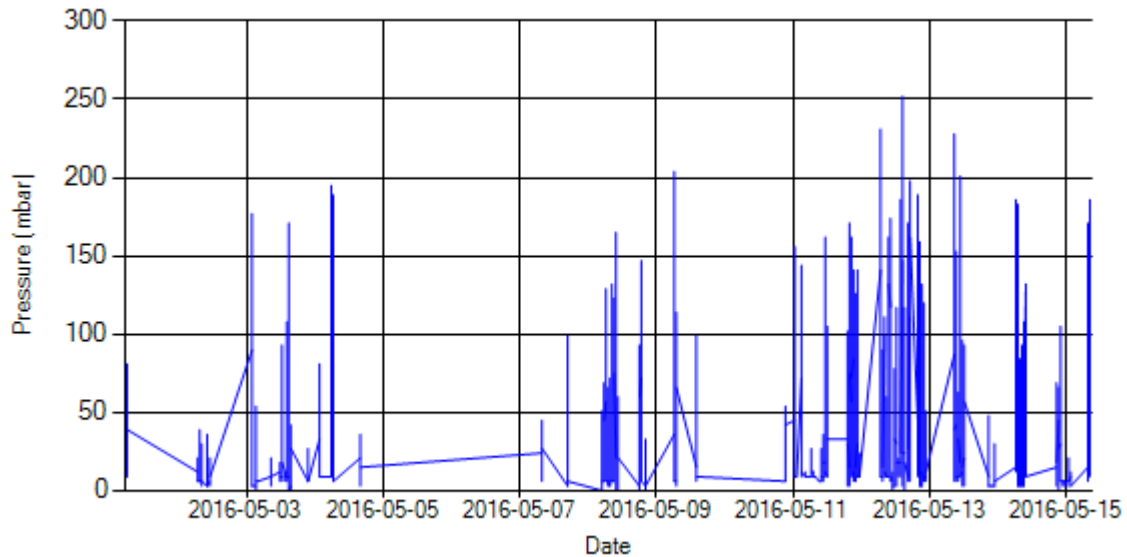


Figure 4- Pressure distribution over the period

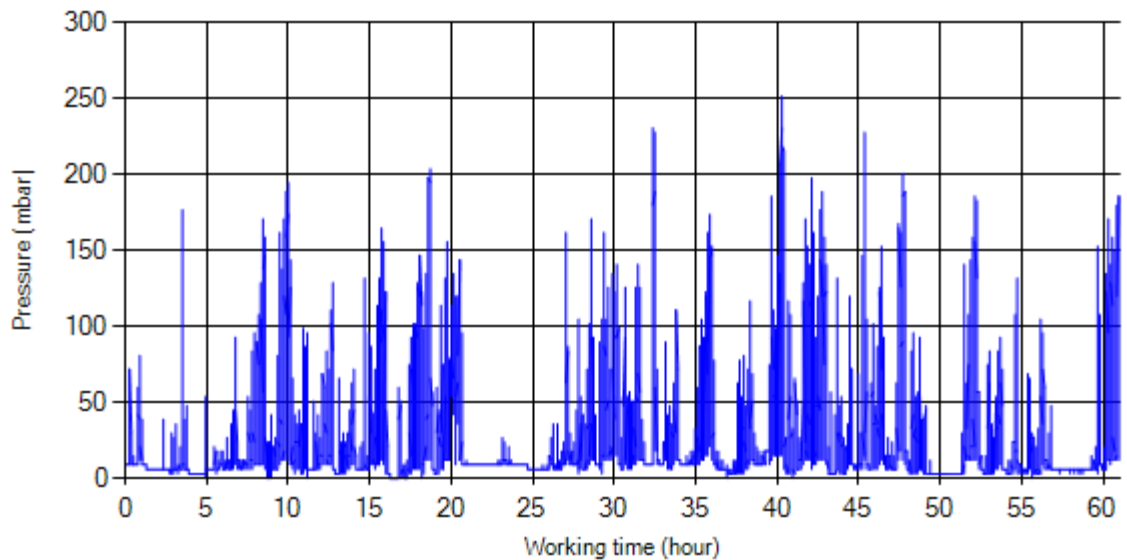


Figure 5- Pressure vs. working hours

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

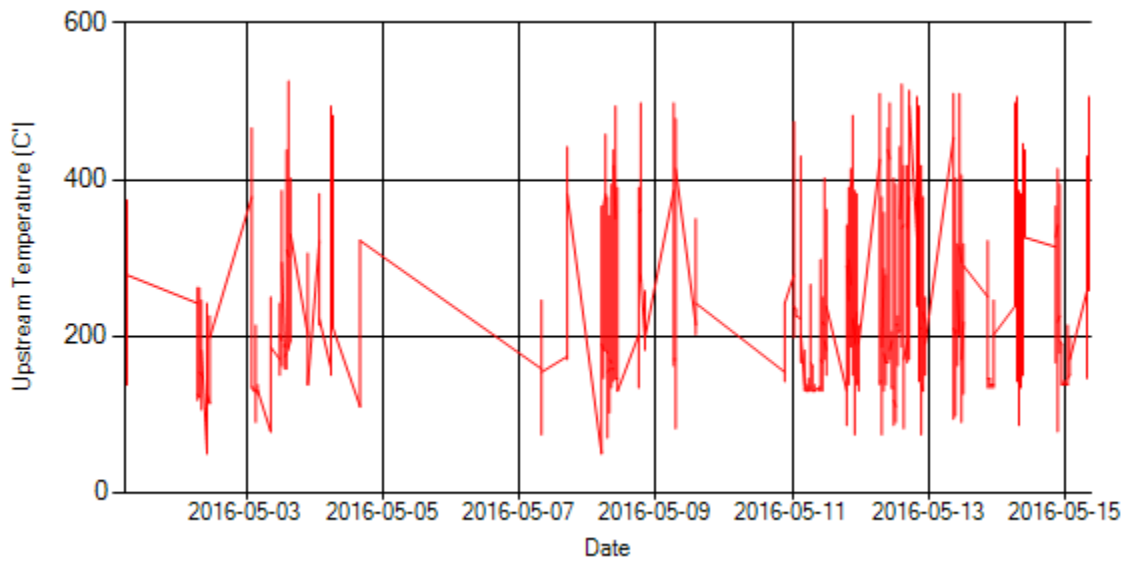


Figure 6- Temperature distribution over the period

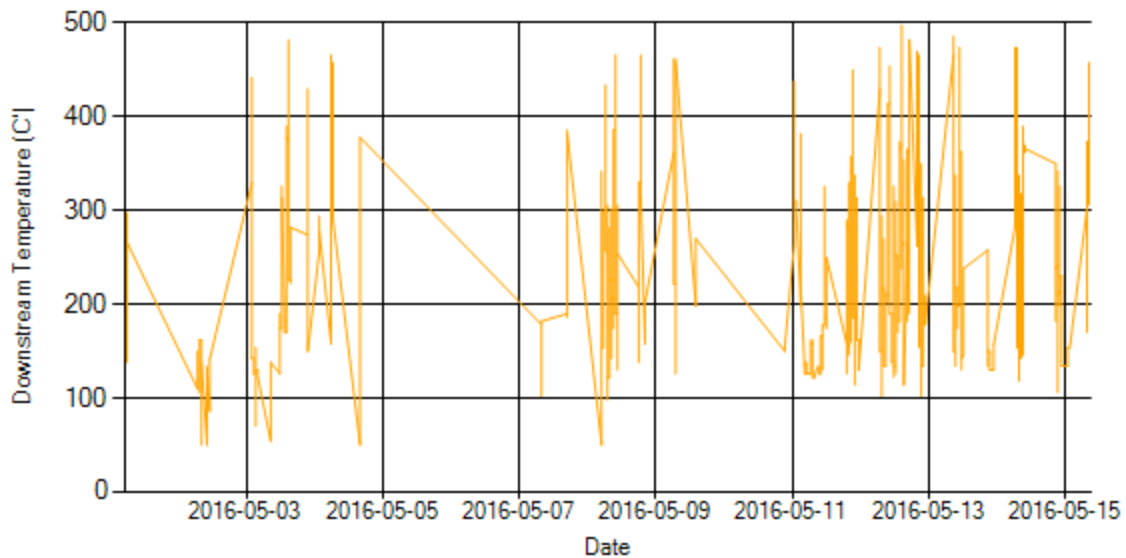


Figure 7- Temperature distribution over the period

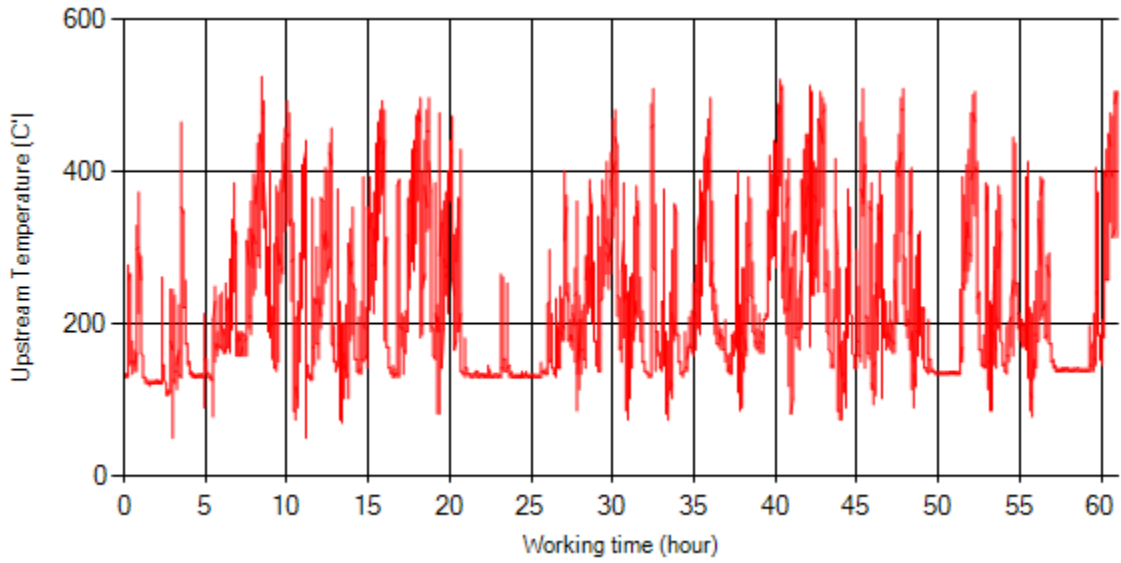


Figure 8- Temperature vs. working hours

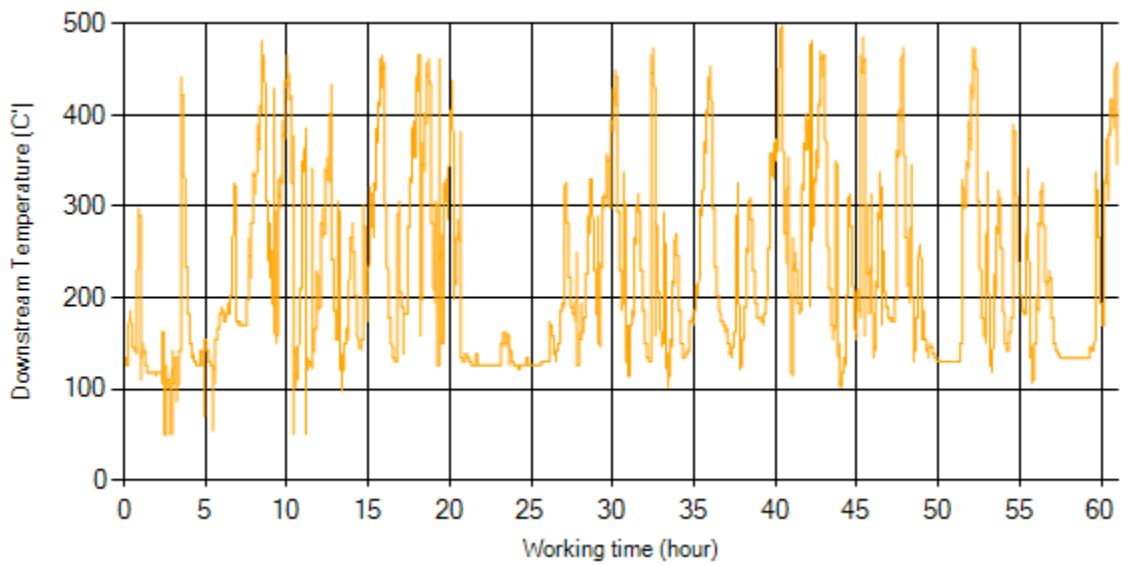


Figure 9- Temperature vs. working hours

Engine Speed Diagrams

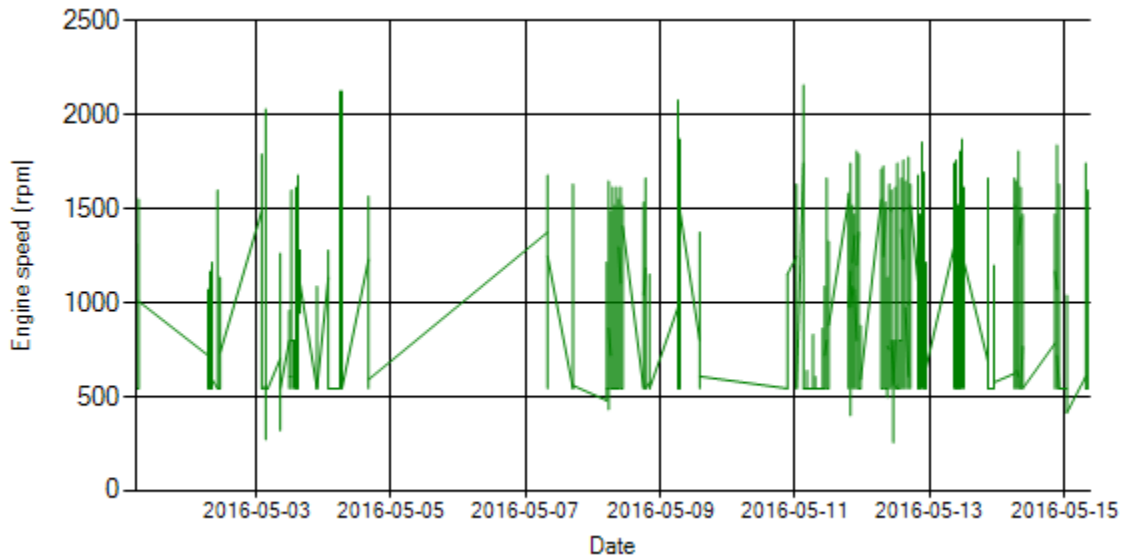


Figure 10- Engine speed distribution over the period

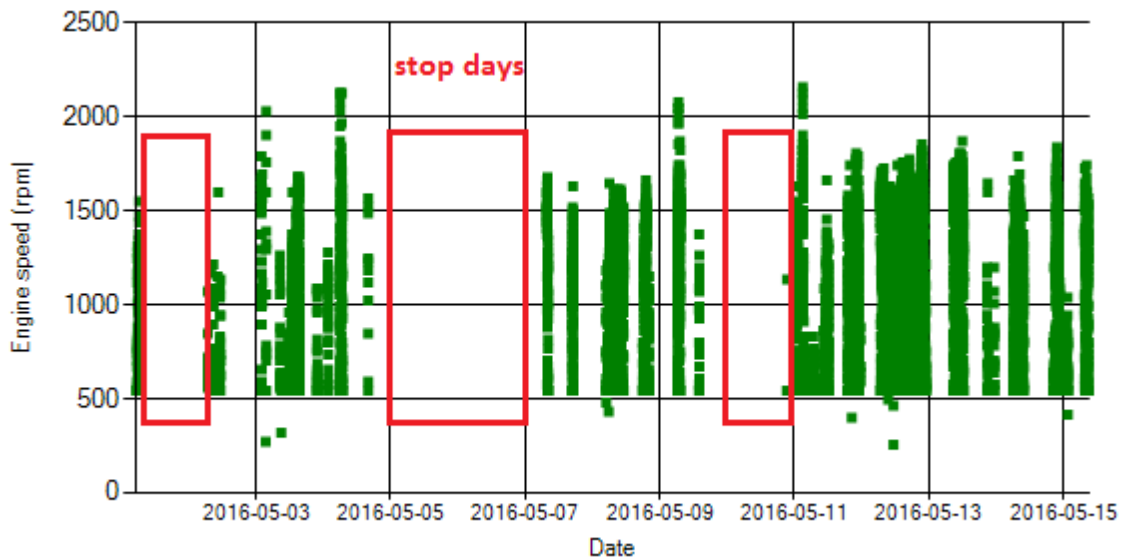


Figure 11- Engine speed diagram for calculating CPK's working days

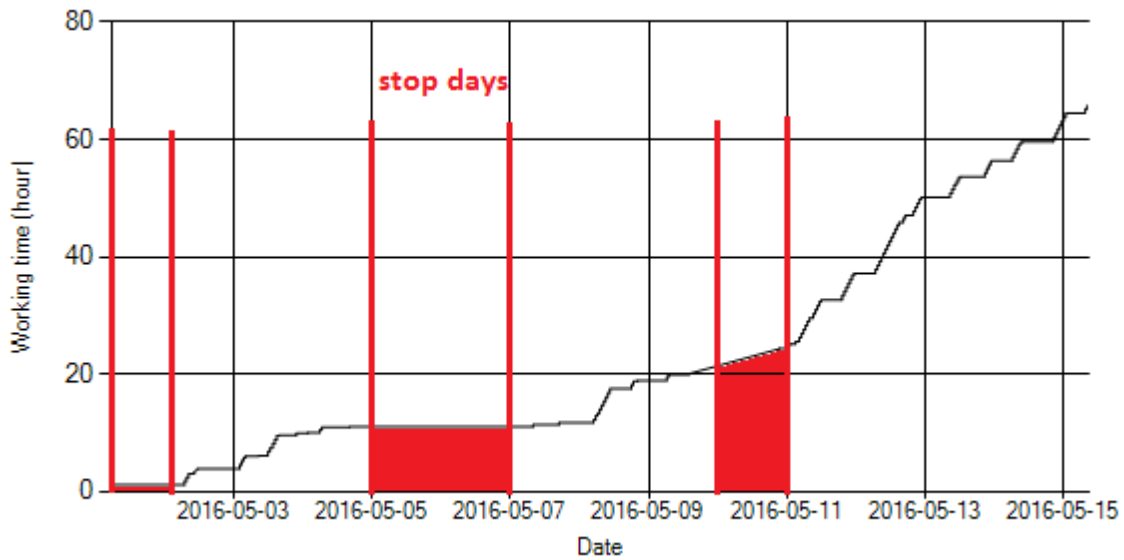


Figure 12- Time diagram for calculating CPK's working days

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

Pressure-Engine Speed diagrams

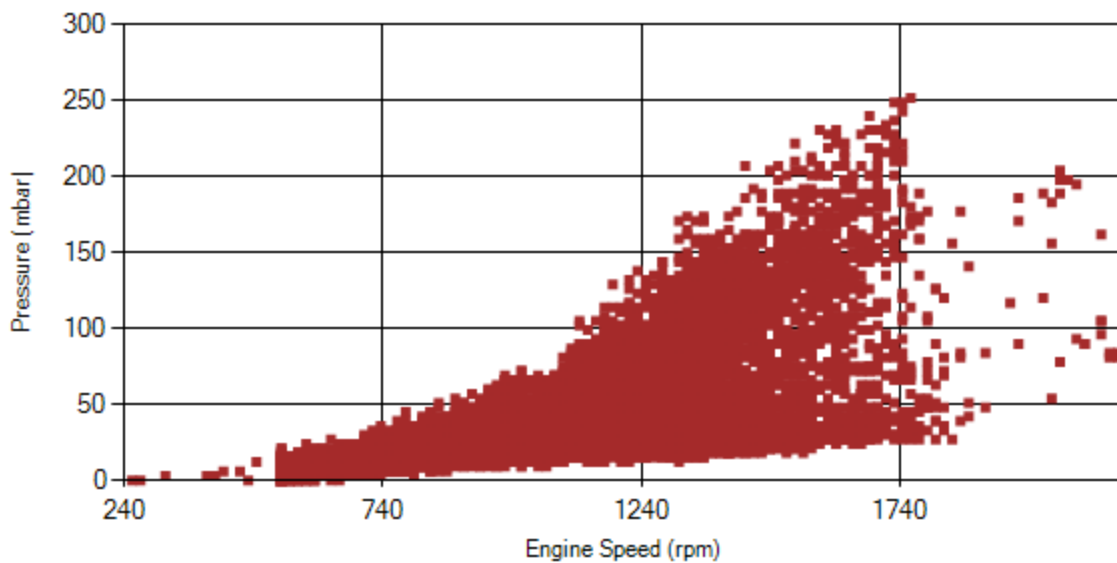


Figure 13- Pressure against engine speed

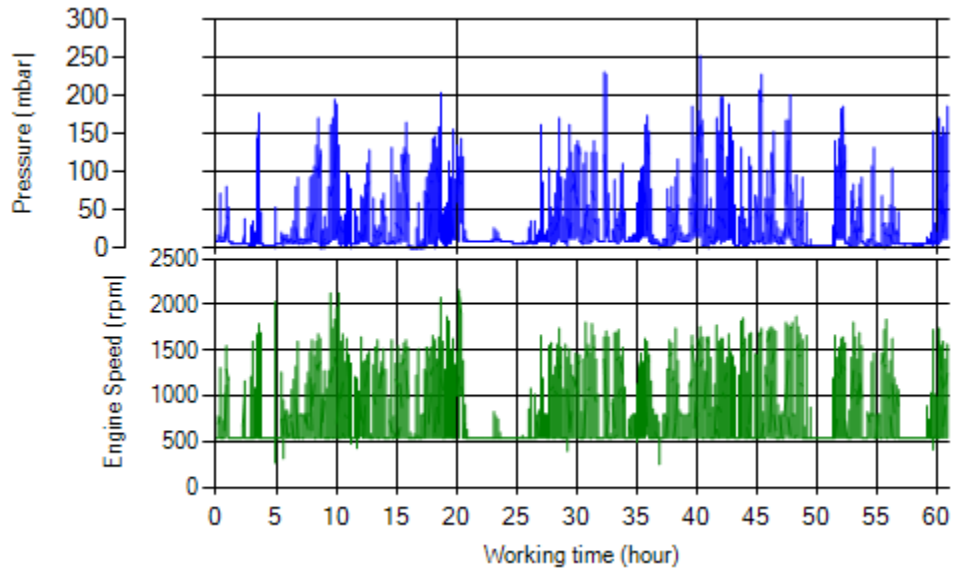


Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

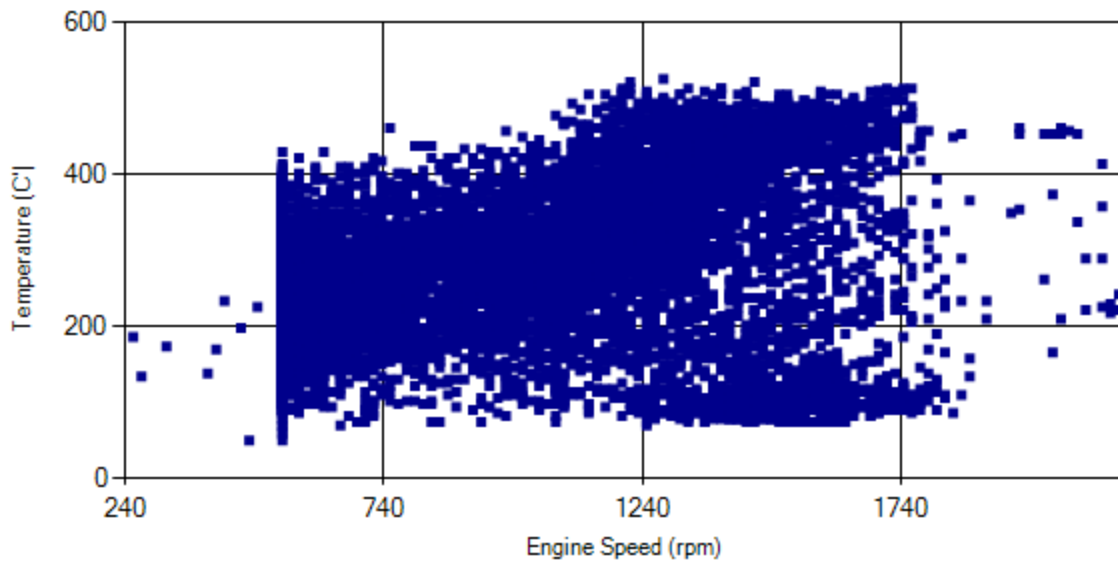


Figure 15- Temperature against engine speed

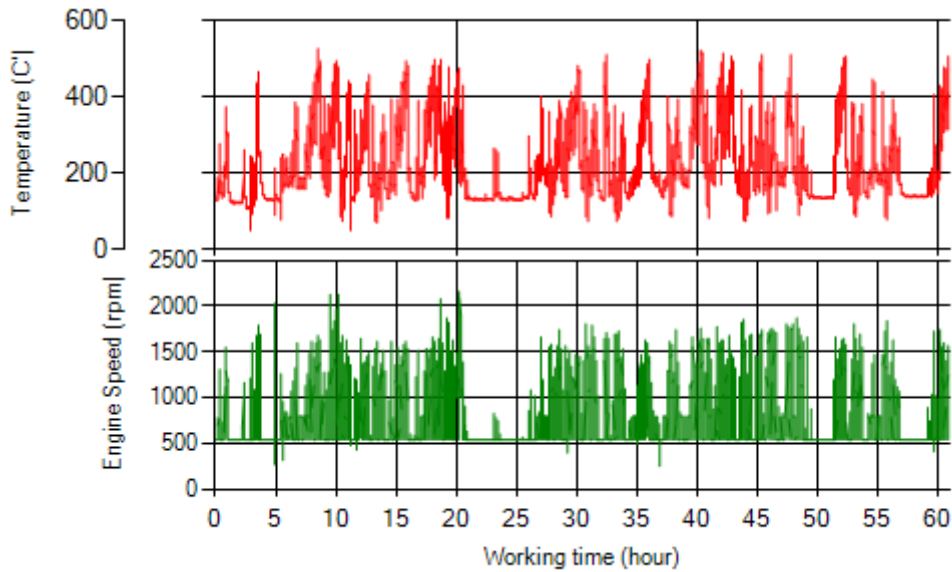


Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in Figure 1, 0.32% of working time pressure was above 200 mbar and 1.64% of working time was above 150 mbar.
- Figure 2 displays flow temperature before the DPF. It can be obviously observed that 7.4% of total working time temperature is above 400 °C and 13% above 350°C.
- Considering available data DPF operation was good during the period.

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