

## 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	16/Aug/2016 – 31/Aug/2016 (sixteen days)
K value - DPF upstream	- [1/m]
K value – DPF downstream	- [1/m]

*Table 2- DPF Maintenance History*

Filter maintenance date	DPF core was cleaned on 2015/Jun/13 for the first time. The second cleaning was done on 2016/Jul/11. Due to some wiring problems, the DPF core was replaced with muffler on Jul 13 <sup>th</sup> .
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)	91208 km
Bus mileage over the period	3344 km
Working days over the period	14 days
Stop days	2 days
Data logger working days	14 days
Working hours over the period	180 hours 45 minutes
Average working hours per day (including stop days)	11 hours 18 minutes
Bus average speed	15.8 km/hr
idle speed time to all working time ration	28.23 %
Total Bus fuel consumption over the period	1739 lit
Fuel consumption per hour	9.62 lit/hr
Average fuel consumption	0.52 lit/km

### Temperature, Pressure and Engine Speed Overview

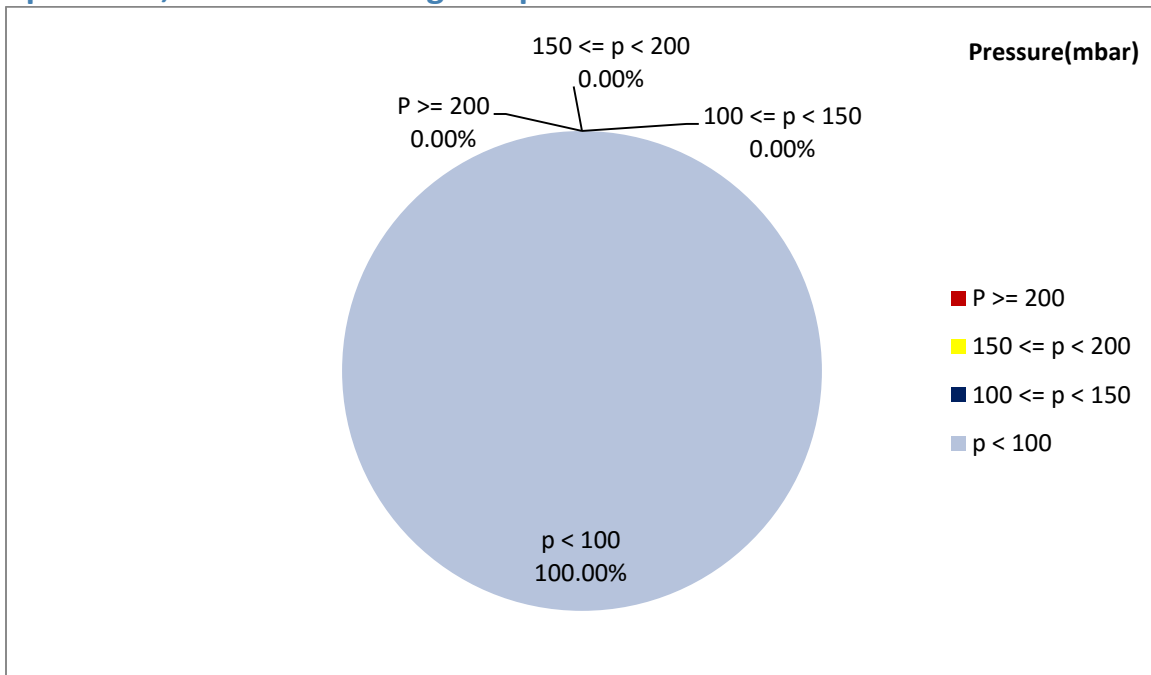


Figure 1- Pressure distribution over the working hours

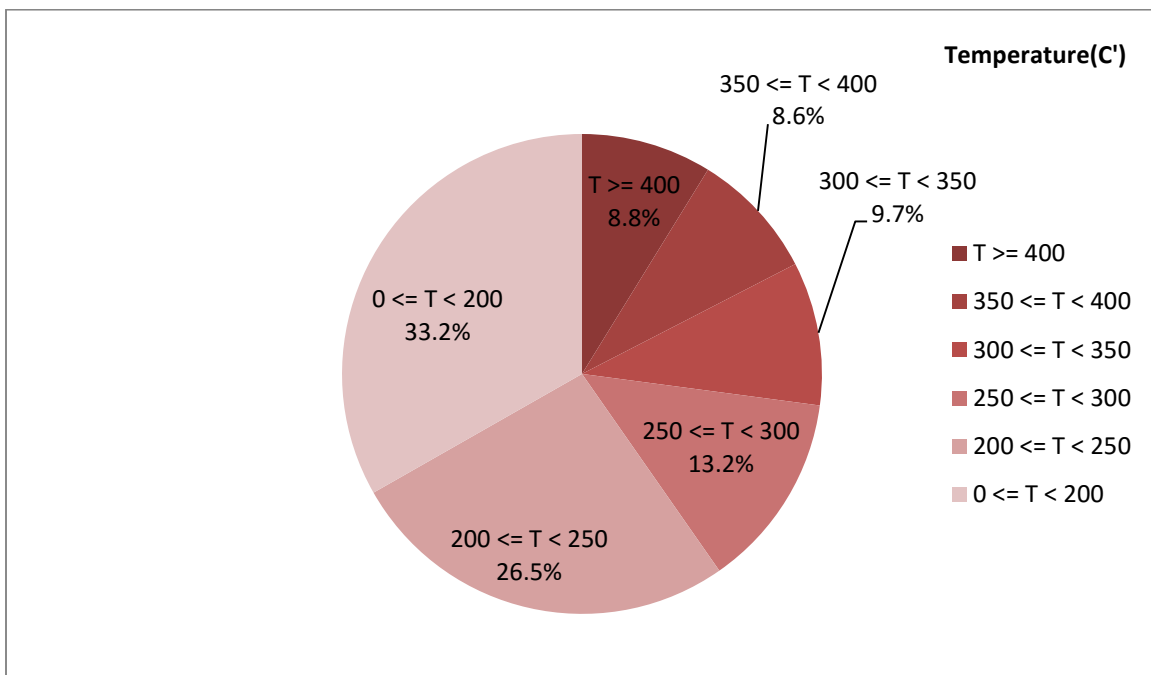


Figure 2-Temperature distribution over the working hours

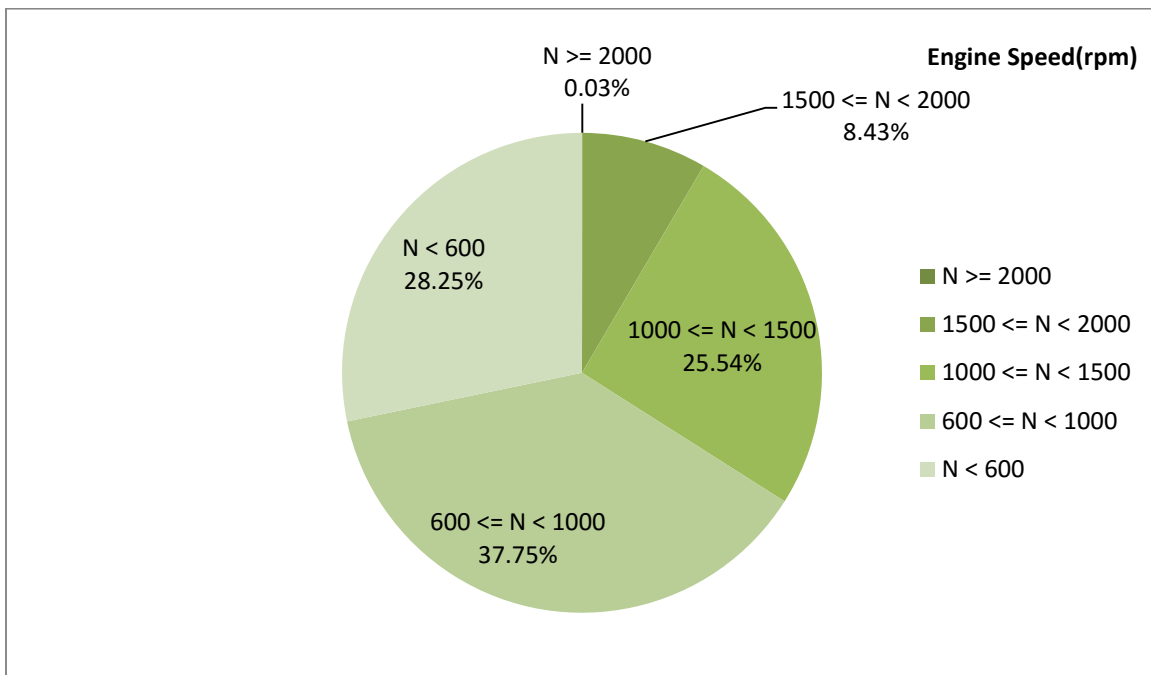


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
247.62	3.14	908

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
272.34	4.36	1049

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
534-50	66-0	2160-272

### Detailed Pressure Analysis

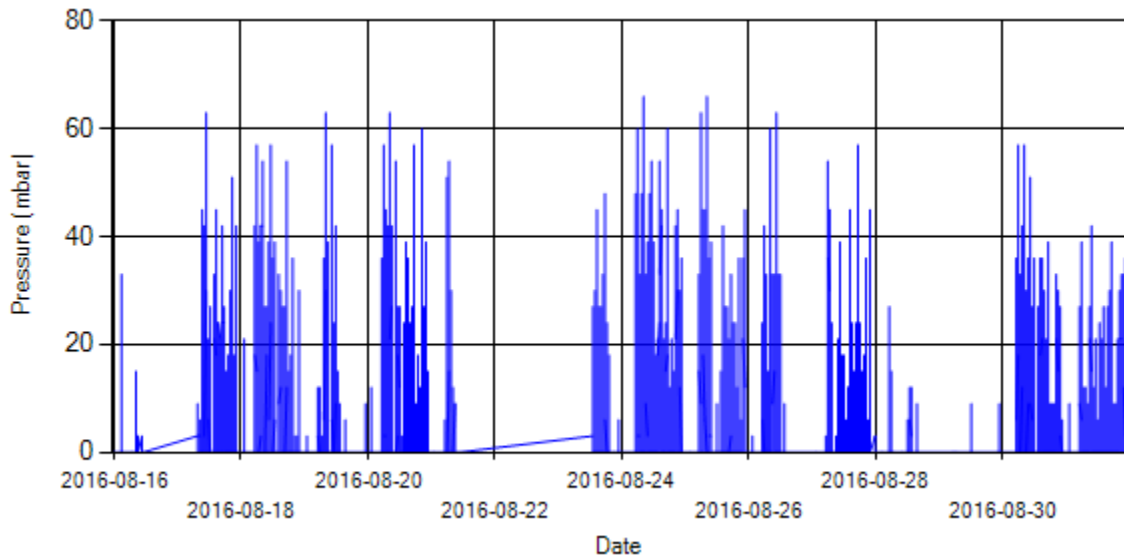


Figure 4- Pressure distribution over the period

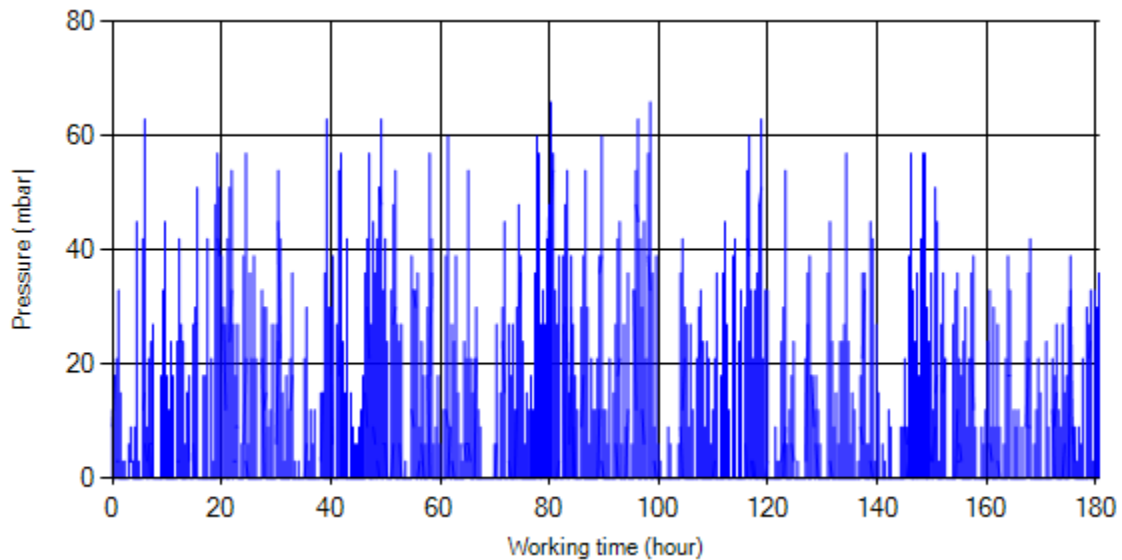


Figure 5- Pressure vs. working hours

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

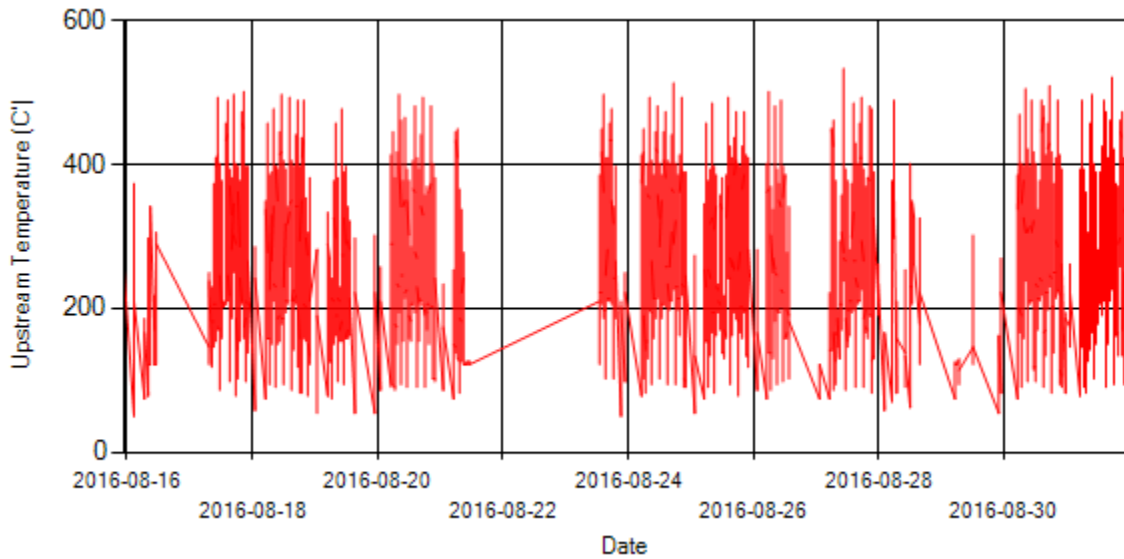


Figure 6- Temperature distribution over the period

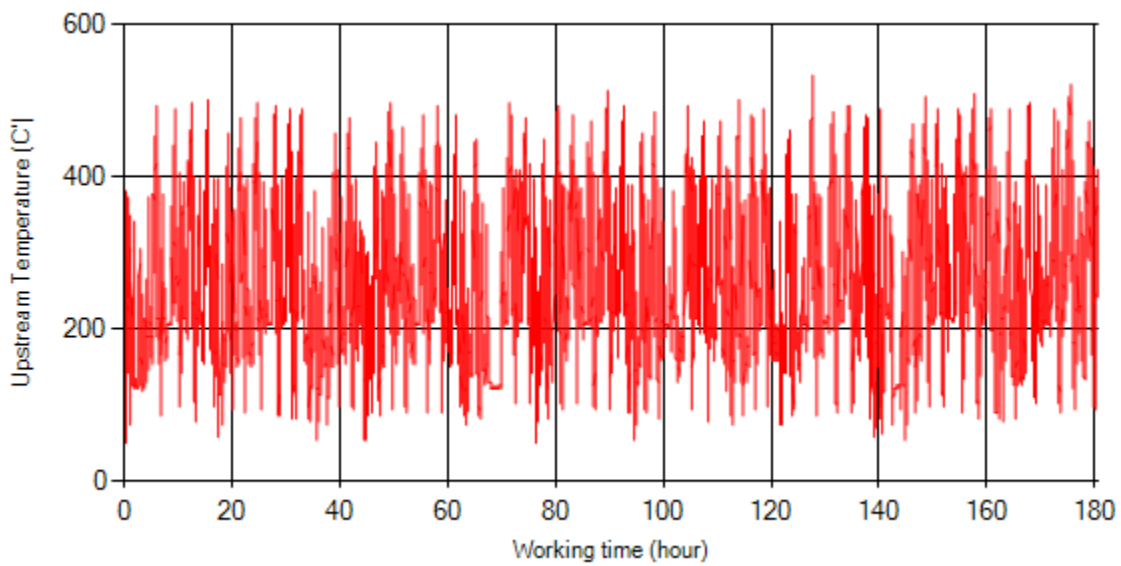


Figure 7- Temperature vs. working hours

### Engine Speed Diagrams

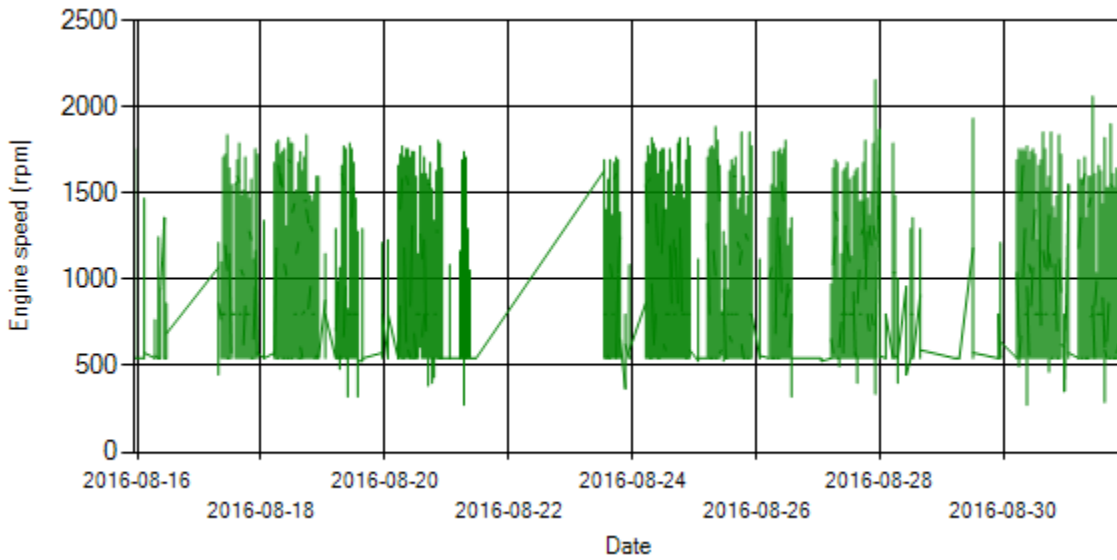


Figure 8- Engine speed distribution over the period

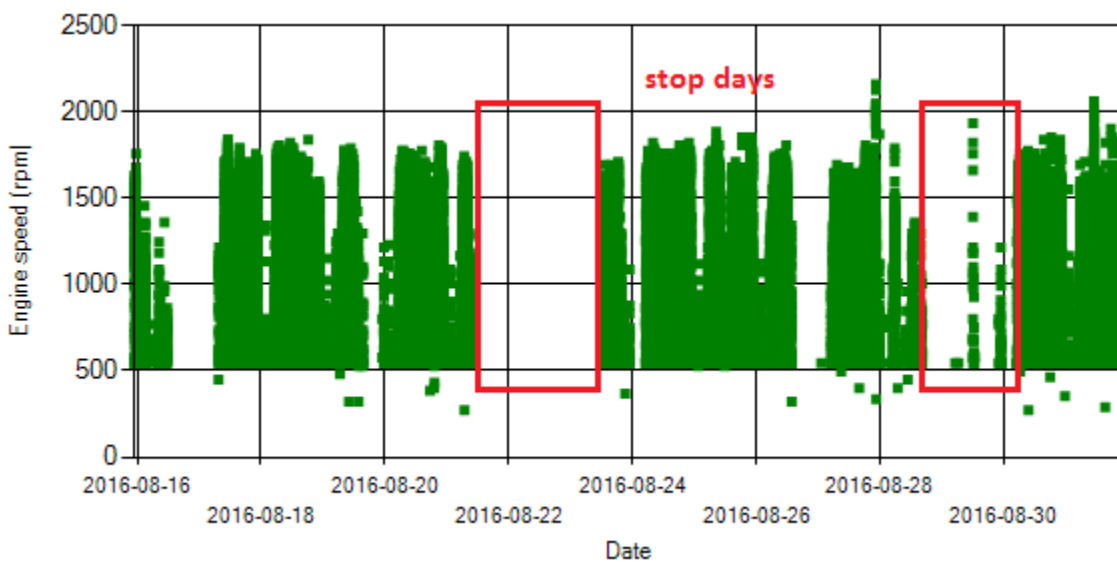


Figure 9- Engine speed diagram for calculating CPK's working days

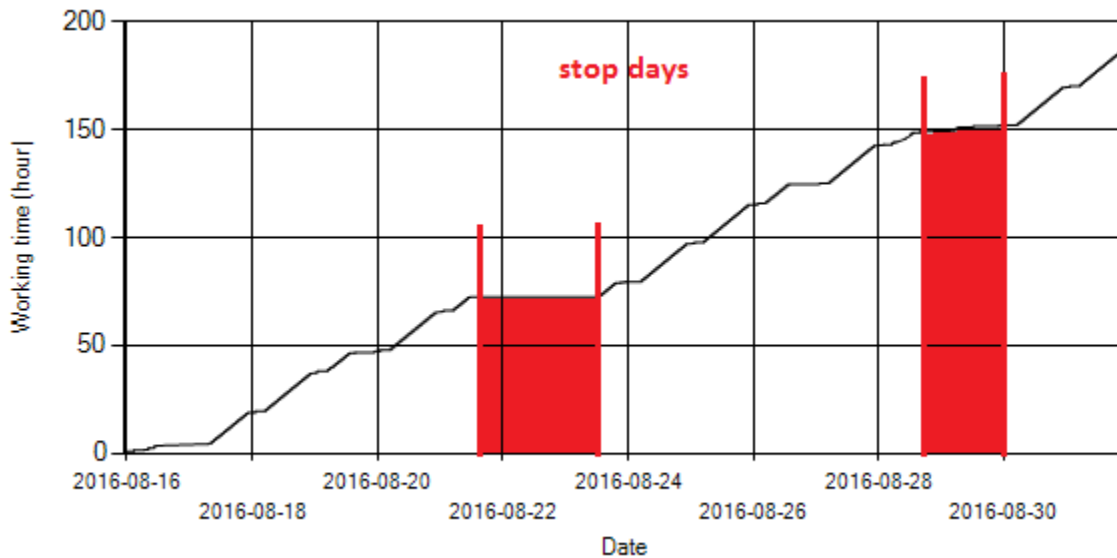


Figure 10- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 10. The lines parallel with Date axis show days without data logger data. As depicted in Figure 10 system was stopped for 2 days.

### Pressure-Engine Speed diagrams

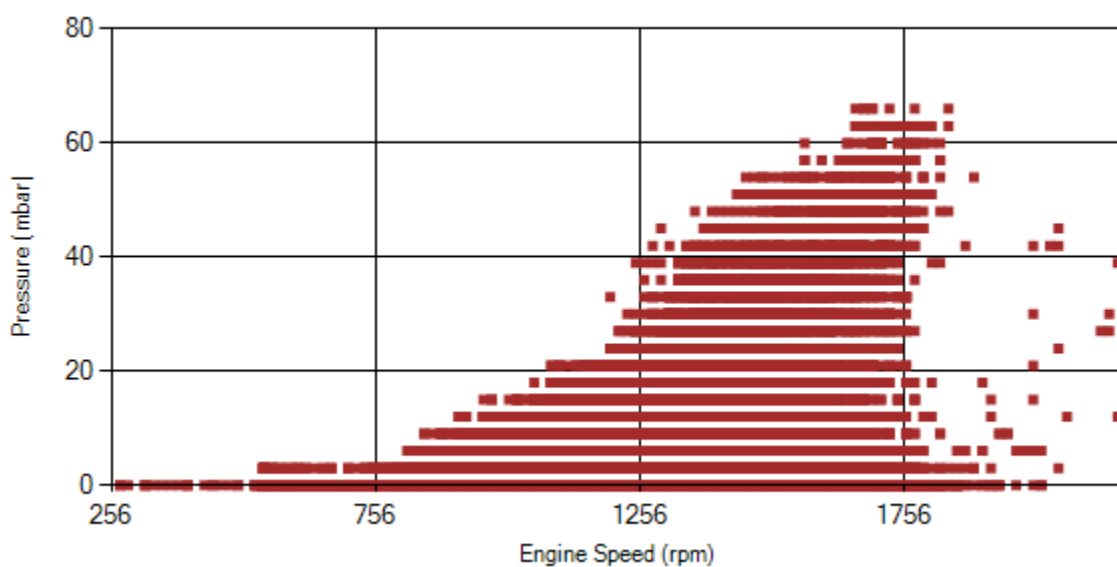


Figure 11- Pressure against engine speed



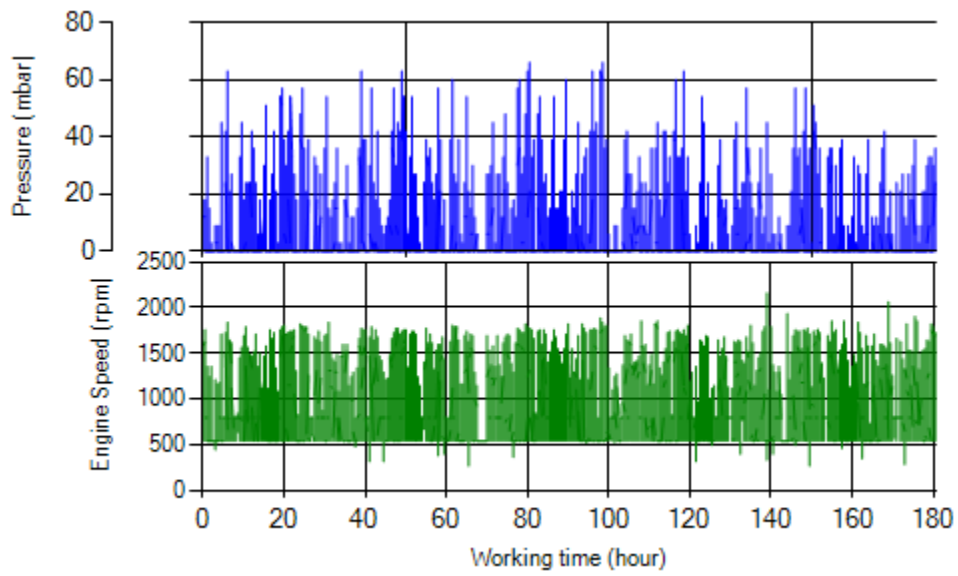


Figure 12- P, N distribution vs. working hours

### Temperature-Engine Speed diagrams

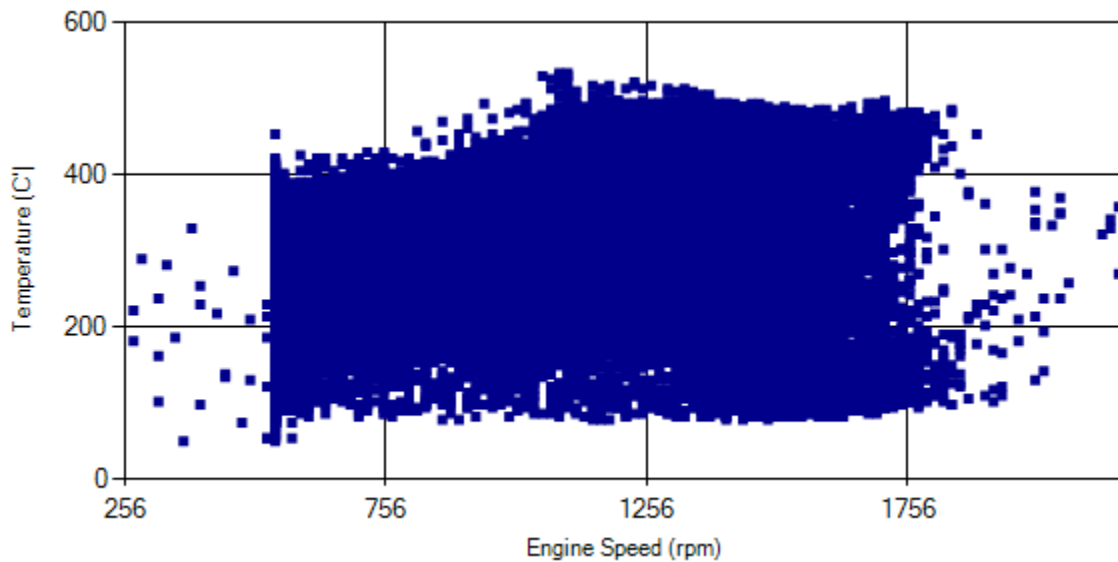
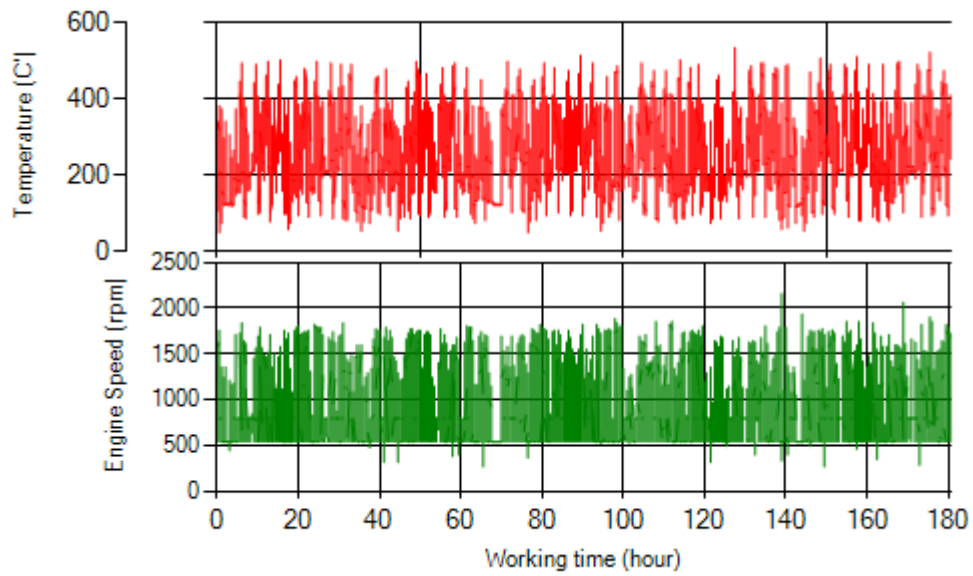


Figure 13- Temperature against engine speed



*Figure 14- T, N distribution vs. working hours*

## Filter Operation Analysis

**NOTE:** System was working without DPF core in this period.