

**Notice: System was working over this period without DPF**  
**Overall Information**

*Table1- Overall Information*

Vehicle plate number	78524
CPK data logger number	LN: 001443, DN: 1930, Sim +989218786219
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	PURltech (Passive system with FBC)
Installation date	28/Jan/2015
Report period	01/Jan/2016 – 15/Jan/2016 (fifteen days)
K value – DPF upstream	-
K value – DPF downstream	-

*Table 2- DPF Maintenance History*

Filter maintenance date	<p>DPF core was removed on Jul 22<sup>nd</sup> and was cleaned on Aug 12<sup>th</sup> for the first time.</p> <p>Considering system relatively high backpressure, filter isolation defect and air filter's deformation, DPF core was removed on Sep 16<sup>th</sup> and installed on Nov 17<sup>th</sup>.</p> <p>The third cleaning was unavoidable after only 6 days working and was done on 29<sup>th</sup> Nov. System only worked for two days and DPF was replaced by muffler on Nov 30<sup>th</sup>.</p>
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)	52421 km
Bus mileage over the period	3377 km
Working days over the period	15 days
Stop days	0 day
Data logger working days	15 days
Working hours over the period	261 hours 48 minutes
Average working hours per day (including stop days)	17 hours 26 minutes
Bus average speed	12.9 km/hr
idle speed time to all working time ration	56.57 %
Total Bus fuel consumption over the period	2026 lit
Fuel consumption per hour	7.73 lit/hr
Average fuel consumption	0.6 lit/km
Total Bus additive consumption over the period	-lit
Average additive consumption	- cc/km
Additive consumption to fuel ration	- cc/1000lit

## Temperature, Pressure and Engine Speed Overview

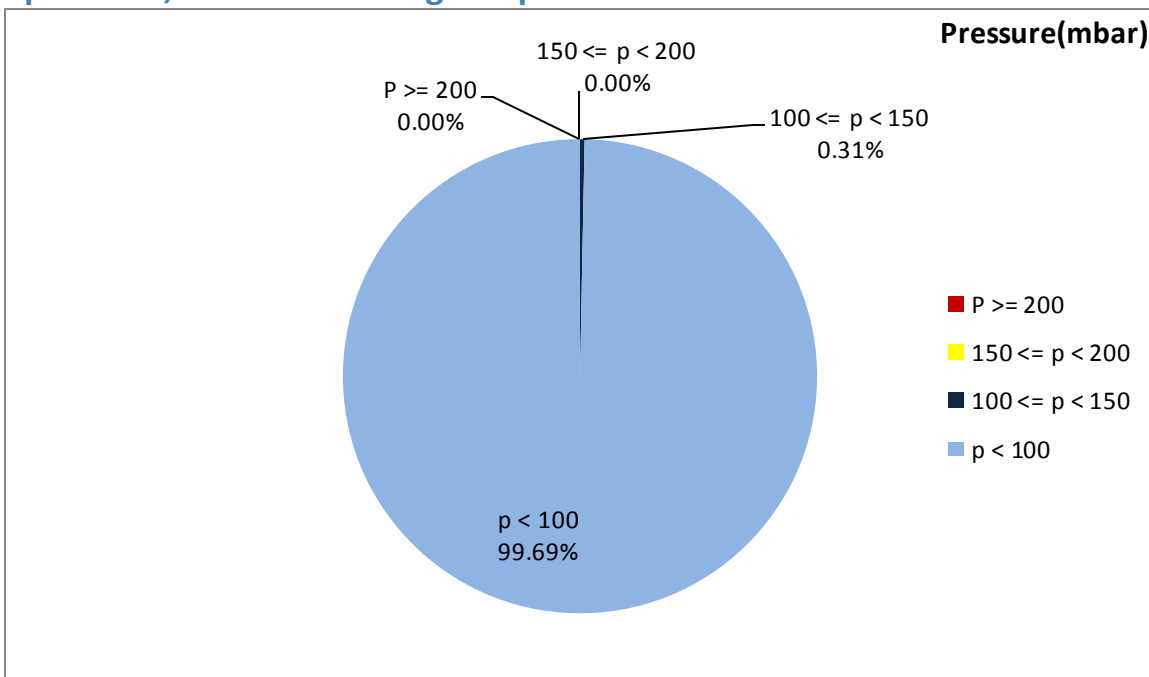


Figure 1- Pressure distribution over the working hours

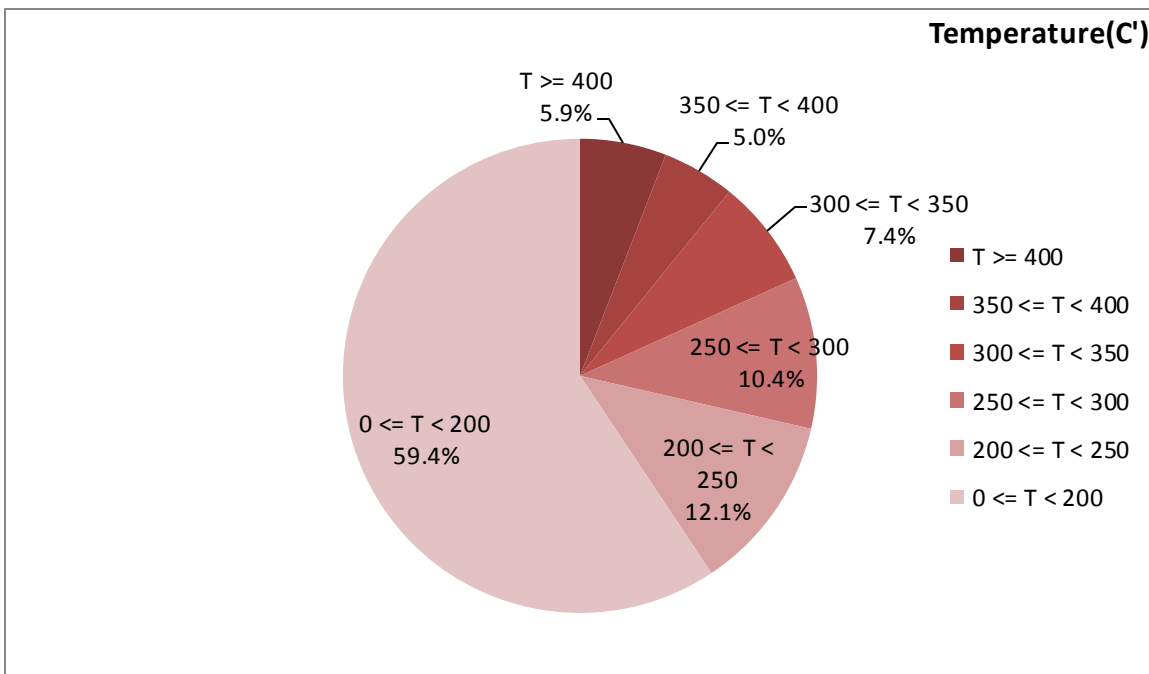


Figure 2-Temperature distribution over the working hours

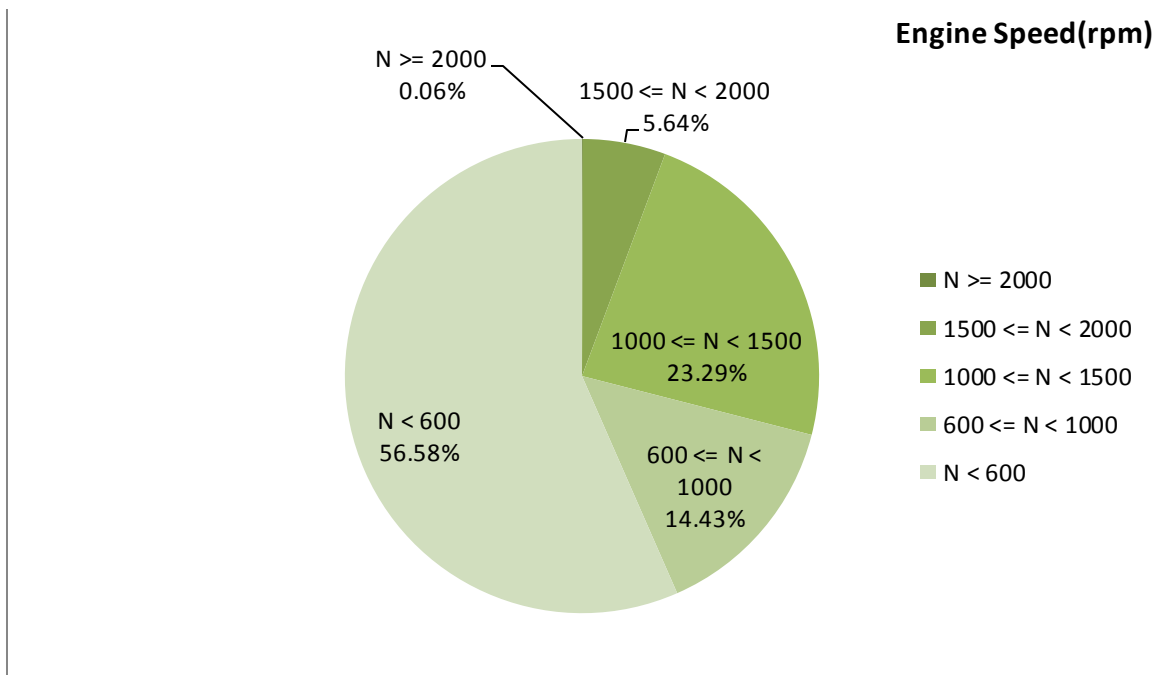


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
206.68	5.12	799

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
276.04	11.64	1129

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
542-50	129-0	2160-320

## Detailed Pressure Analysis

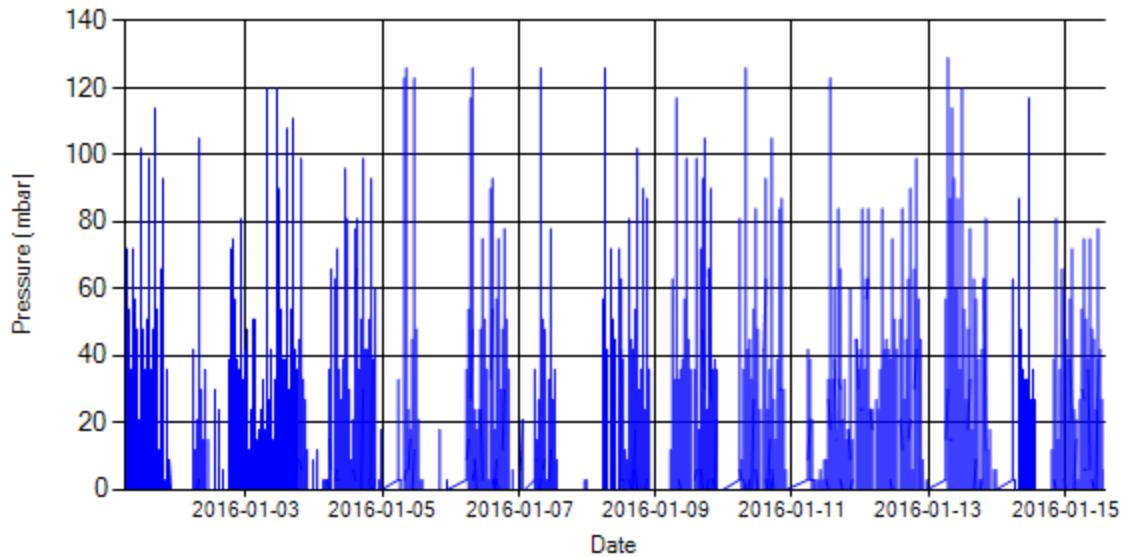


Figure 4- Pressure distribution over the period

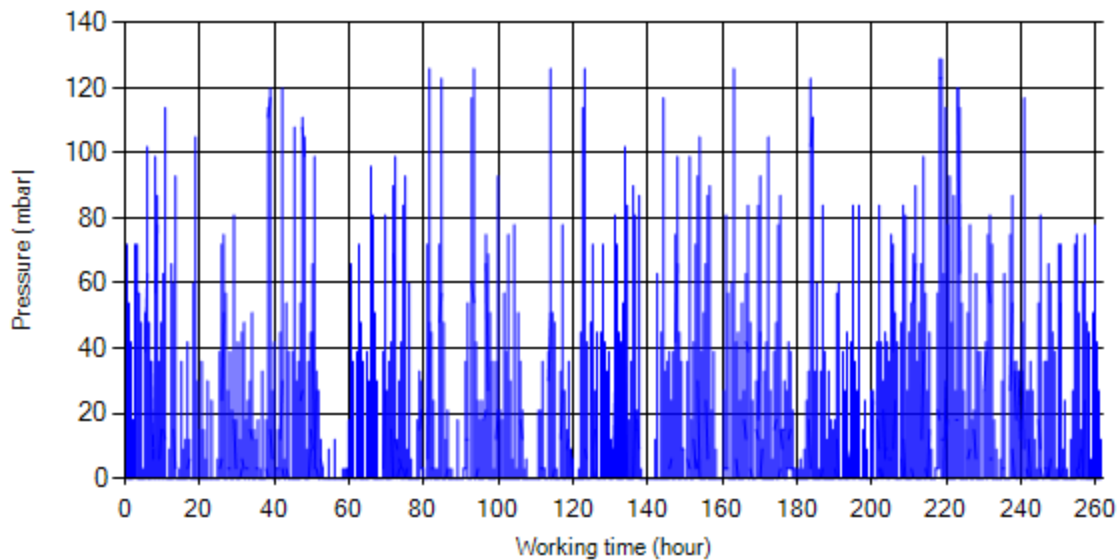


Figure 5- Pressure vs. working hours

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

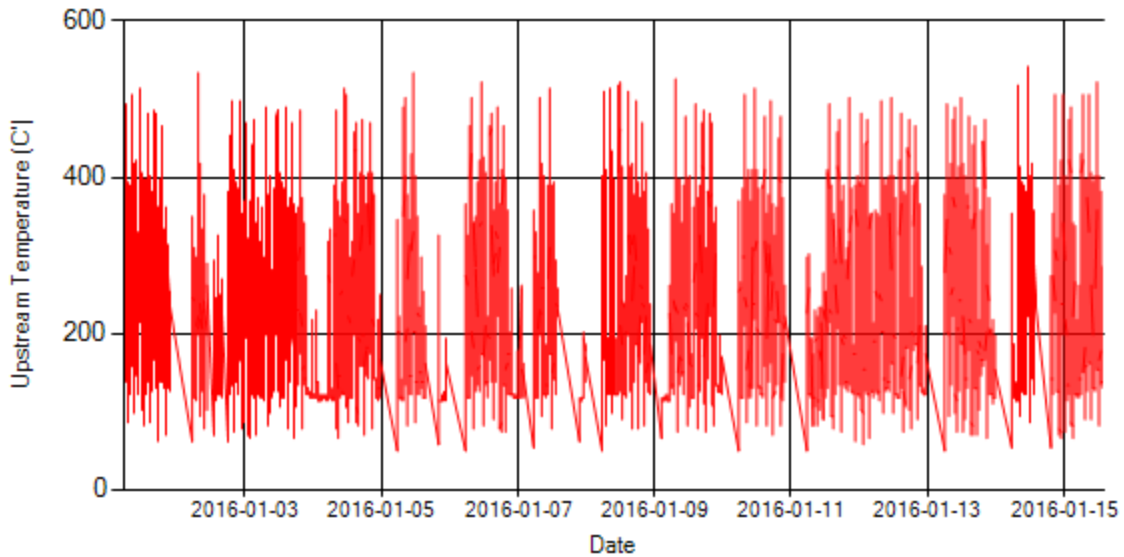


Figure 6- Temperature distribution over the period

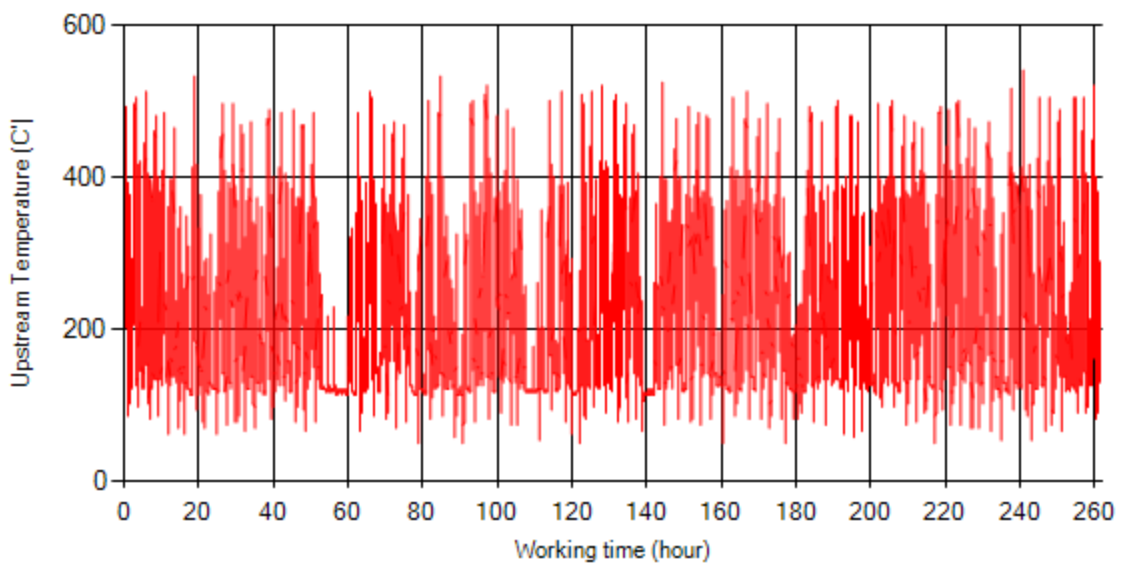


Figure 7- Temperature vs. working hours

## Engine Speed Diagrams

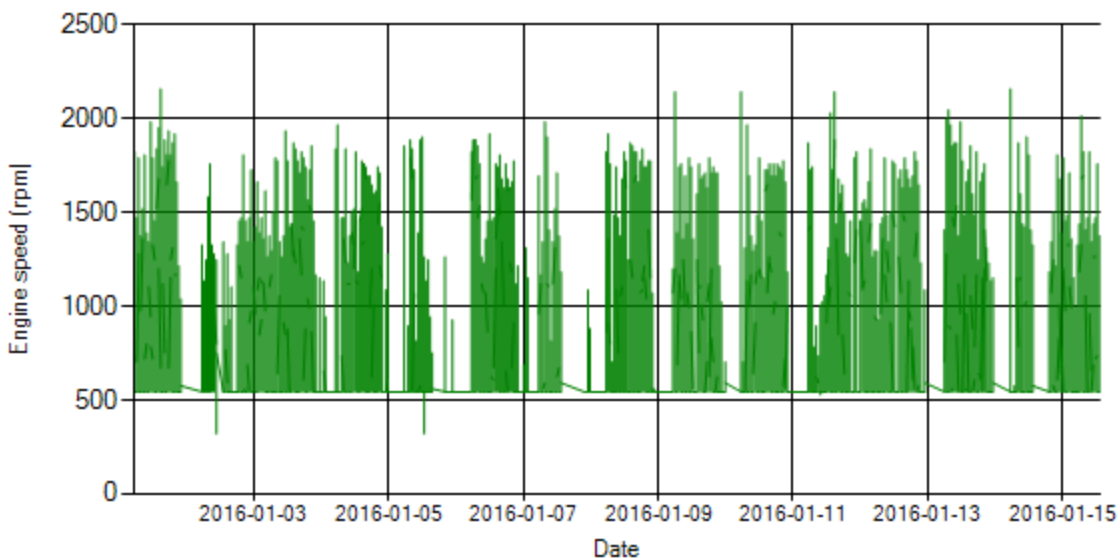


Figure 8- Engine speed distribution over the period

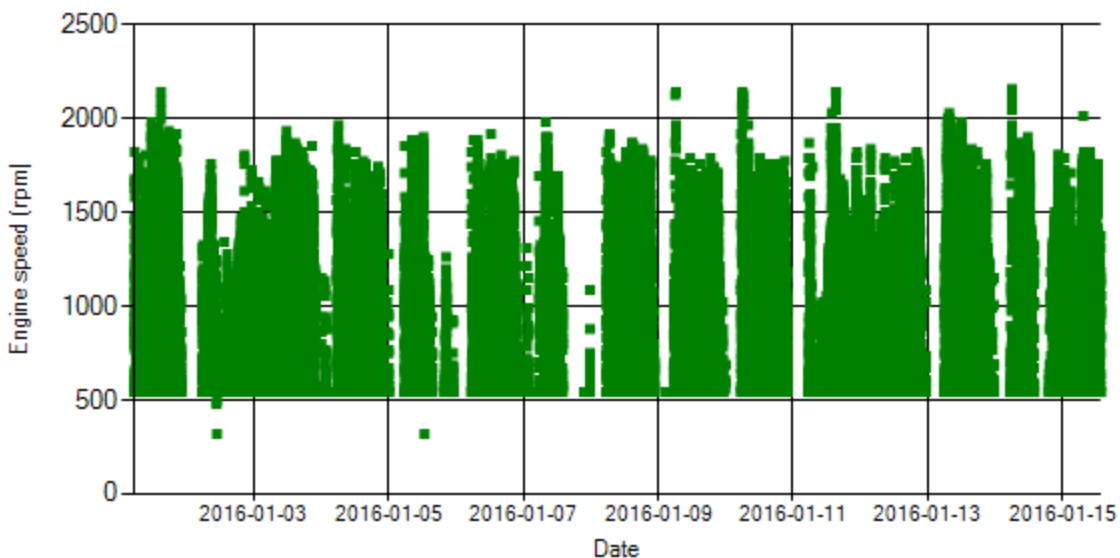


Figure 9- Engine speed diagram for calculating CPK's working days

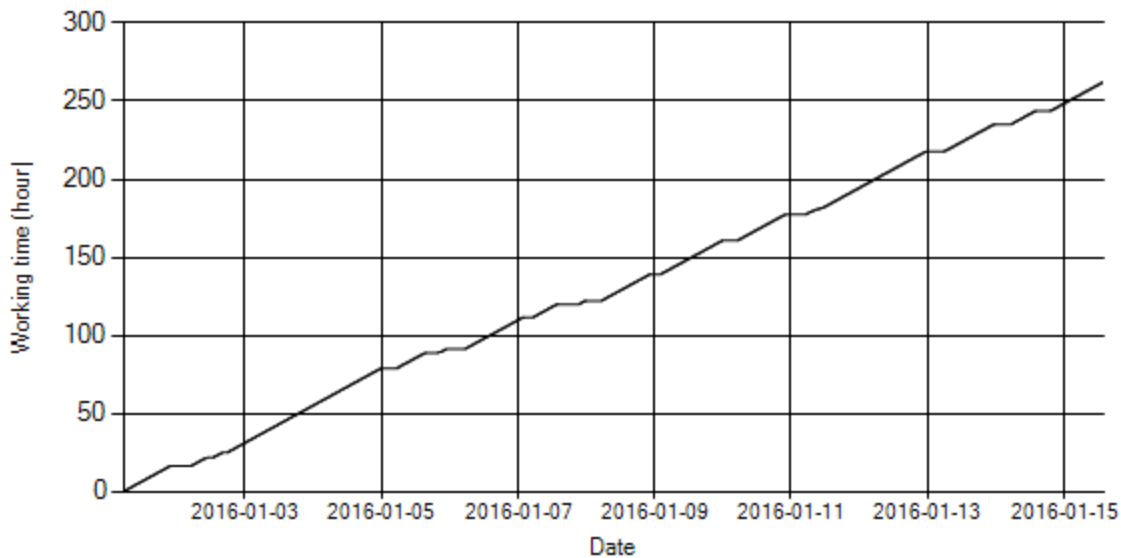


Figure 10- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data. As depicted in Figure 12, system have be working all 15 days.

### Pressure-Engine Speed diagrams

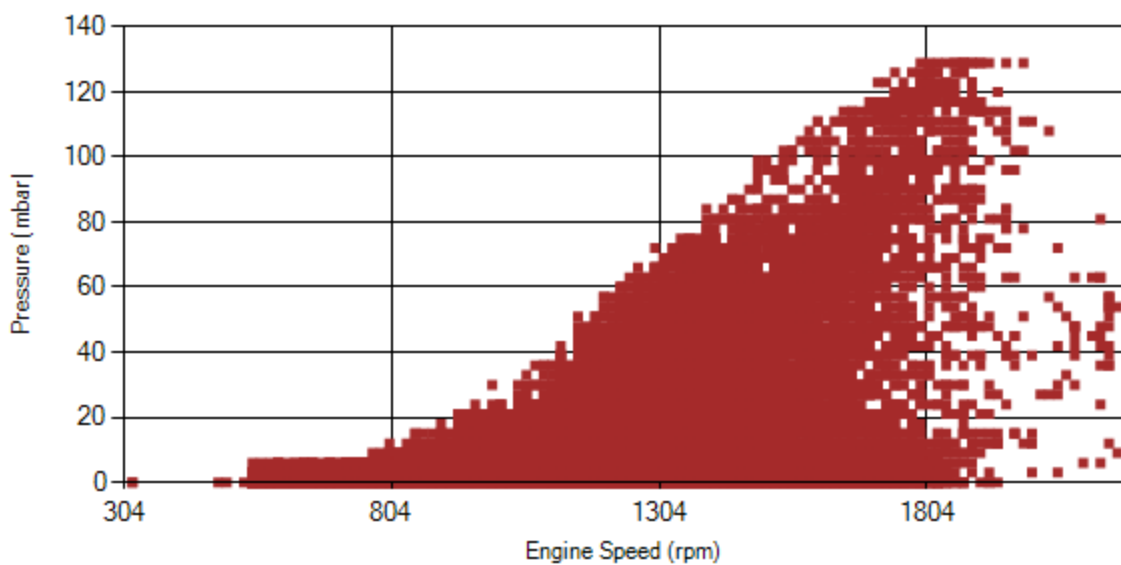


Figure 11- Pressure against engine speed



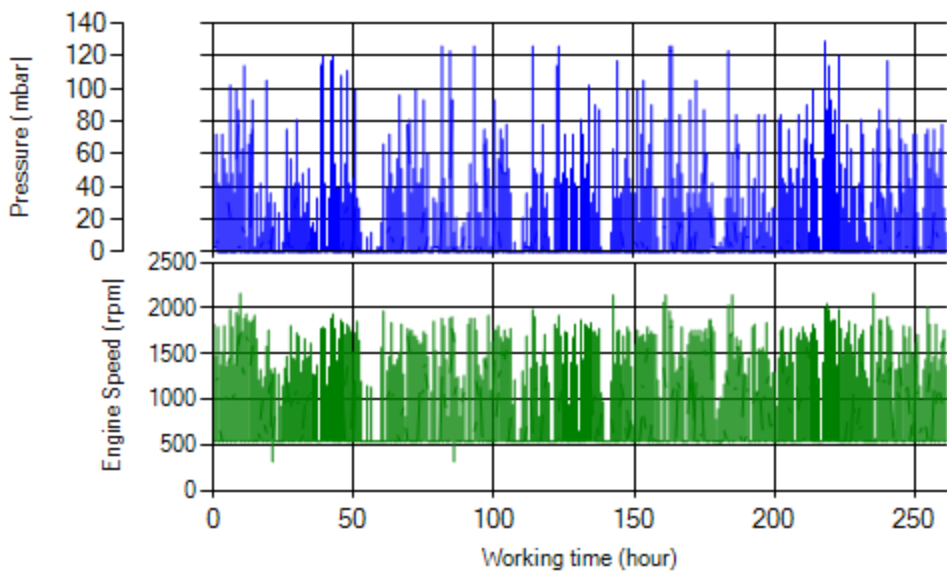


Figure 12- P, N distribution vs. working hours

### Temperature-Engine Speed diagrams

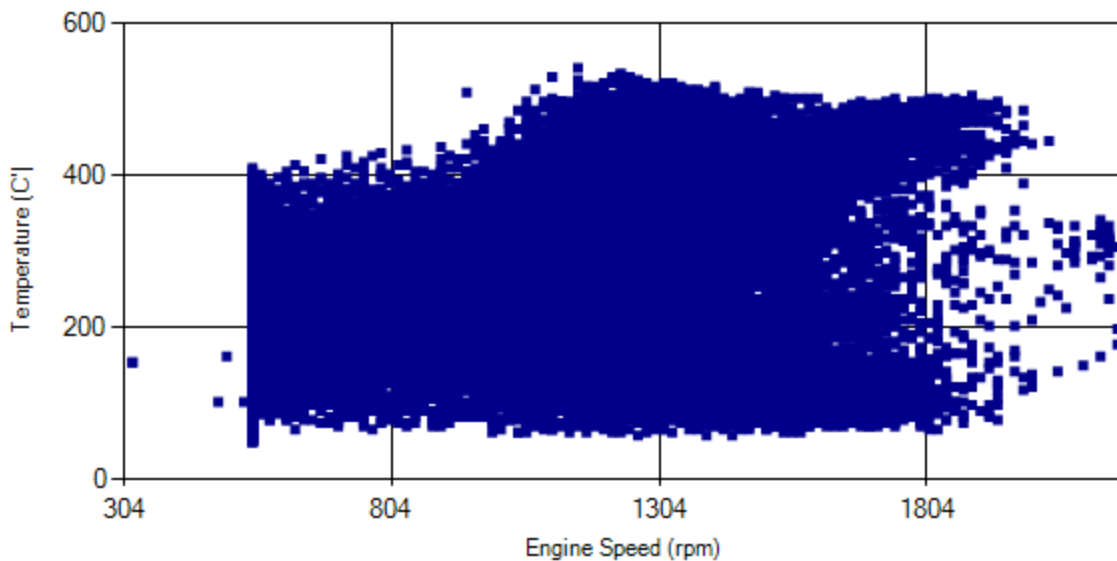


Figure 13- Temperature against engine speed

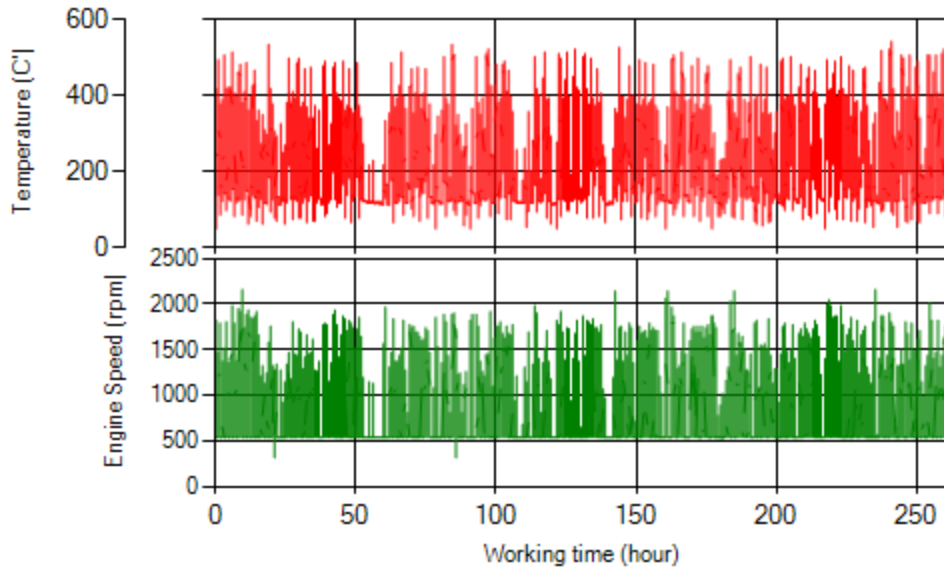


Figure 14- T, N distribution vs. working hours

## Filter Operation Analysis

**Notice:** System was working over this period without DPF.