

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	PURItch (Passive system with FBC)
Installation date	28/Jan/2015
Report period	01/May/2016 – 15/May/2016 (Fifteen days)
K value	1.85
K value	0.02

Table 2- DPF Maintenance History

Filter maintenance date	<p>DPF core was removed on Jul 22nd and was cleaned on Aug 12th 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 16th and installed on Nov 17th.</p> <p>The third cleaning was unavoidable after only 6 days working and was done on 29th Nov. System only worked for two days and DPF was replaced by muffler on Nov 30th.</p> <p>DPF was installed for the fourth time on Jan/19/2016 and was replaced by muffler after only three days working because of high backpressure.</p> <p>A new DPF core was installed on May/14/2016.</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)	7546 km
Bus mileage over the period	436 km
Working days over the period	2 days
Stop days	13 days
Data logger working days	2 days
Working hours over the period	27 hours 45 minutes
Average working hours per day (including stop days)	1 hours 51 minutes
Bus average speed	15.7 km/hr
idle speed time to all working time ration	42.38 %
Total Bus fuel consumption over the period	240 lit
Fuel consumption per hour	8.64 lit/hr
Average fuel consumption	0.55 lit/km
Total Bus additive consumption over the period	0.115 lit
Average additive consumption	264 cc/km
Additive consumption to fuel ration	480 cc/1000lit

Note: The bus was stopped until May/14/2016 on which a new DPF core was installed.

Temperature, Pressure and Engine Speed Overview

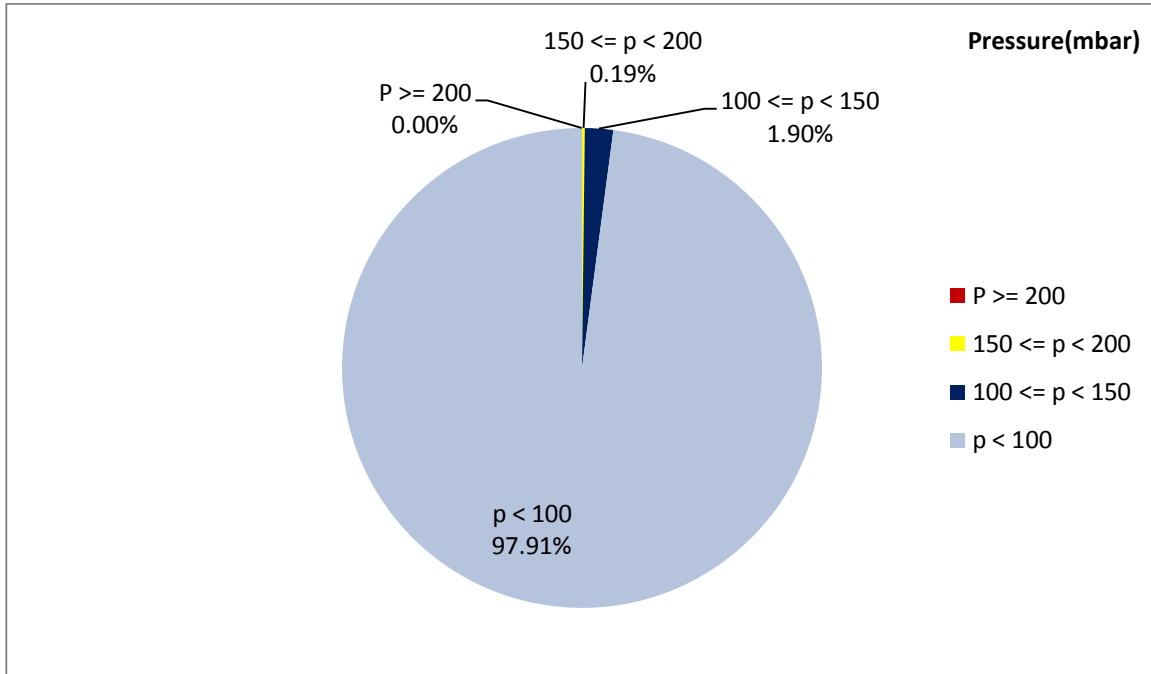


Figure 1- Pressure distribution over the working hours

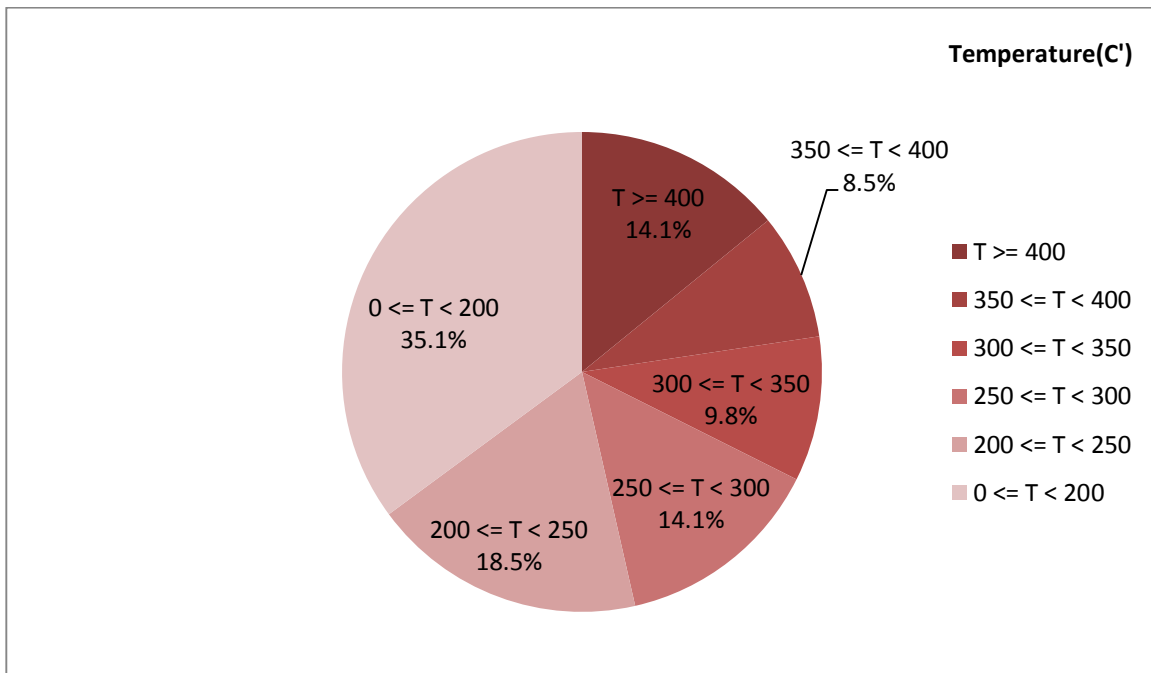


Figure 2-Temperature distribution over the working hours

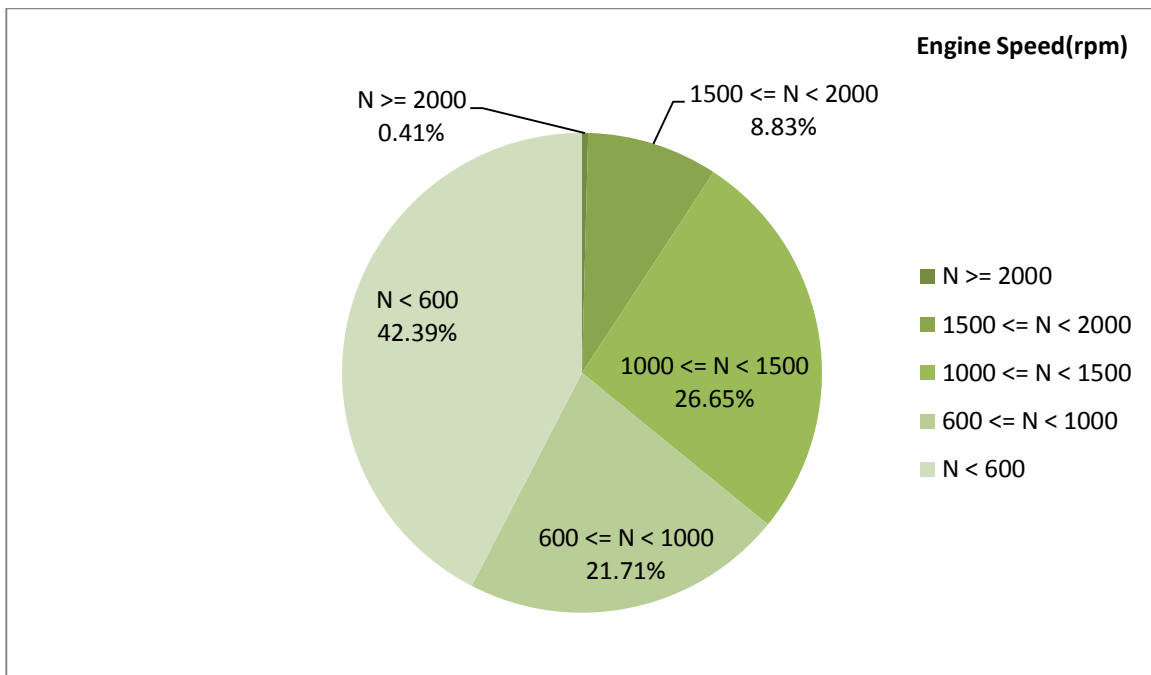


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
264.11	14.15	883

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
311.86	24.02	1131

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
654-50	162-0	2176-448

Detailed Pressure Analysis

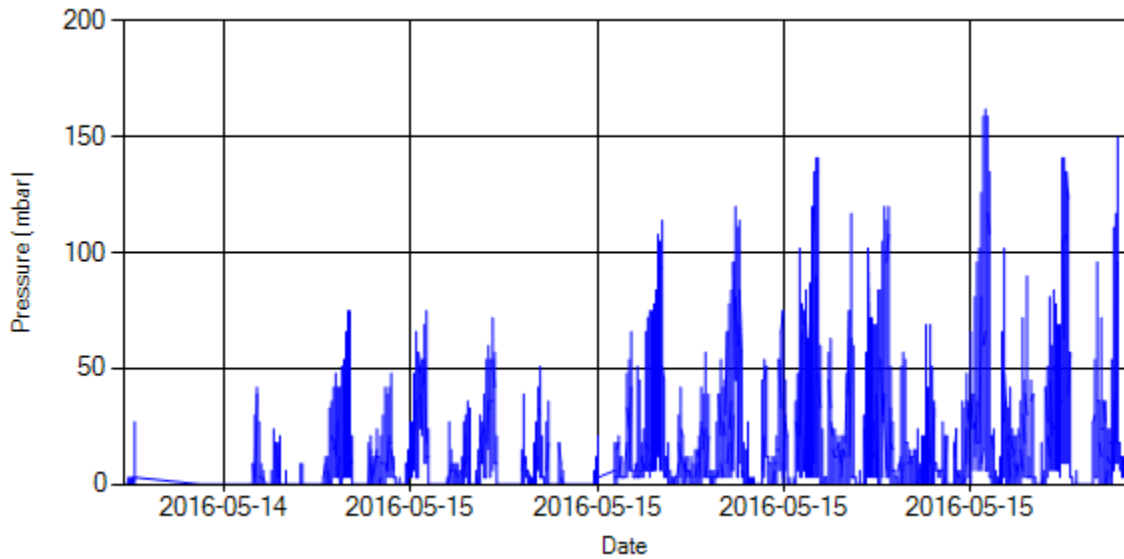


Figure 4- Pressure distribution over the period

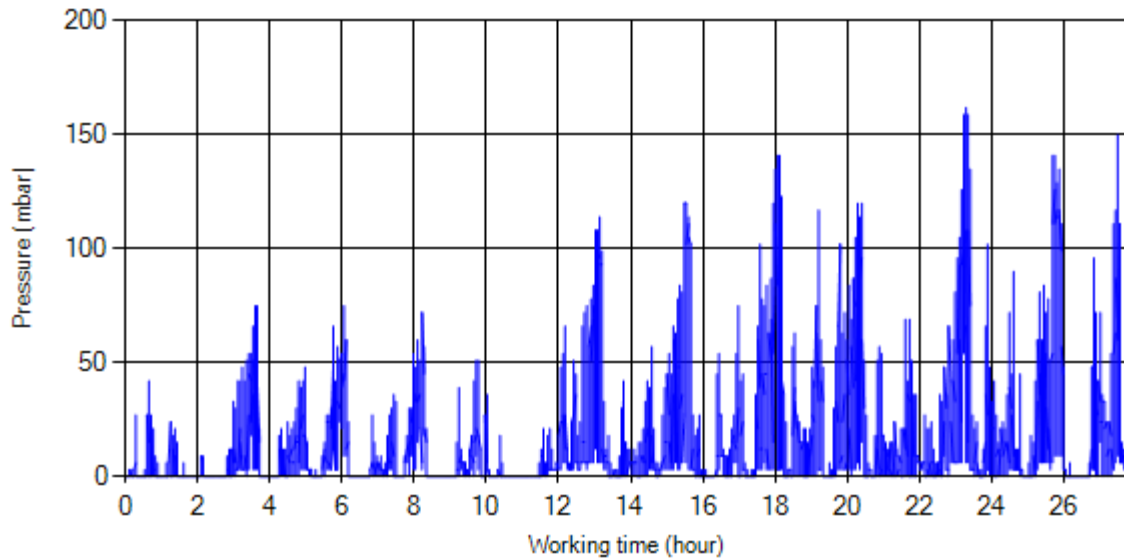


Figure 5- Pressure vs. working hours

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

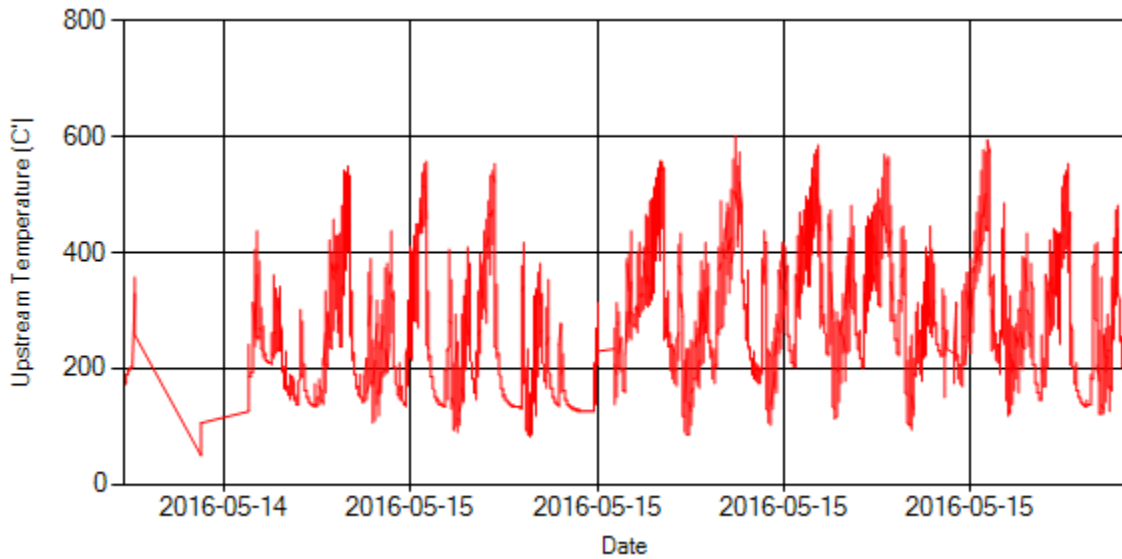


Figure 6- Temperature distribution over the period

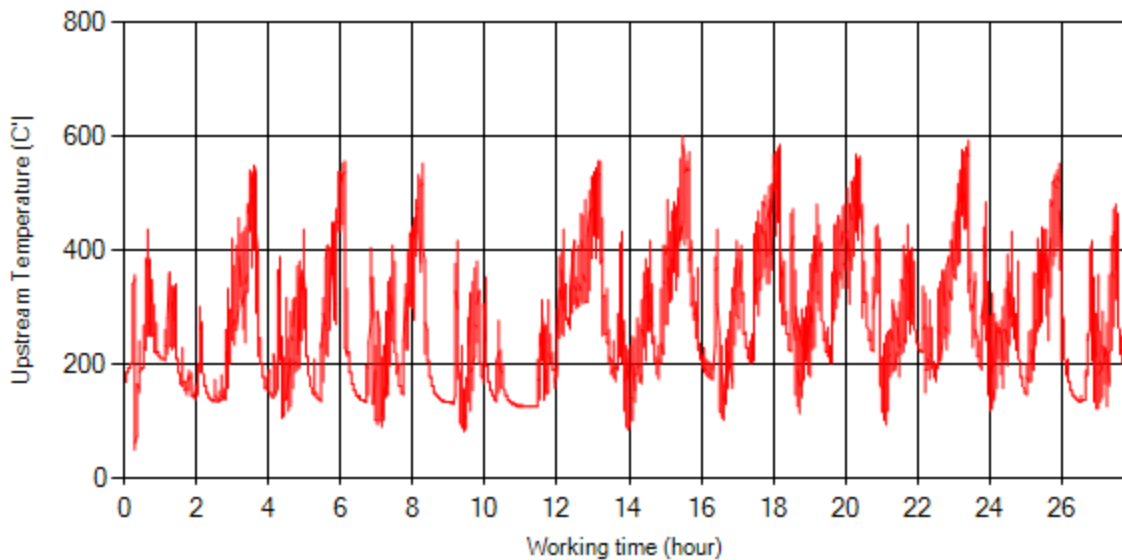


Figure 7- Temperature vs. working hours

Engine Speed Diagrams

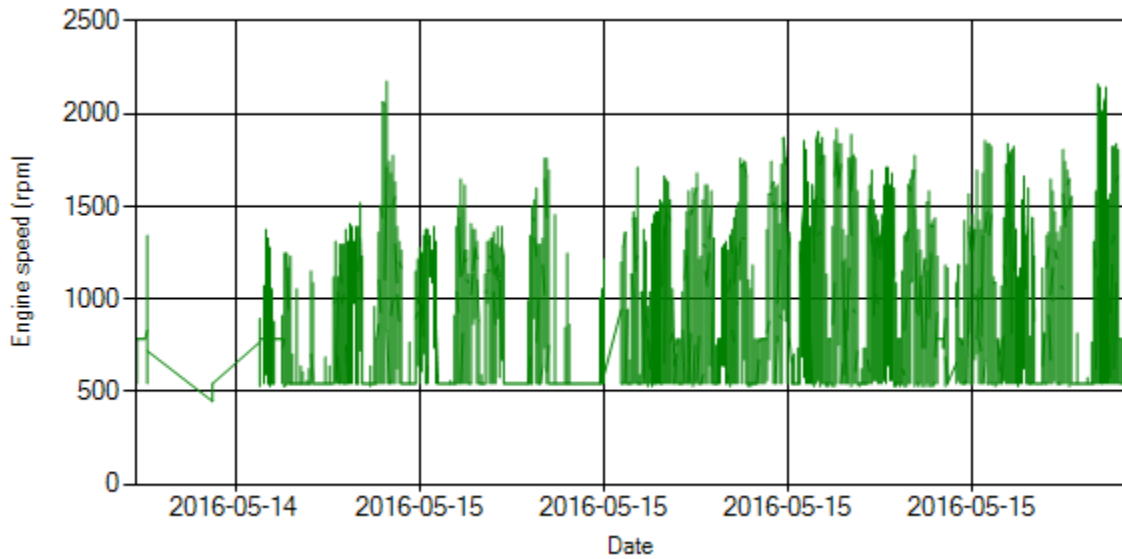


Figure 8- Engine speed distribution over the period

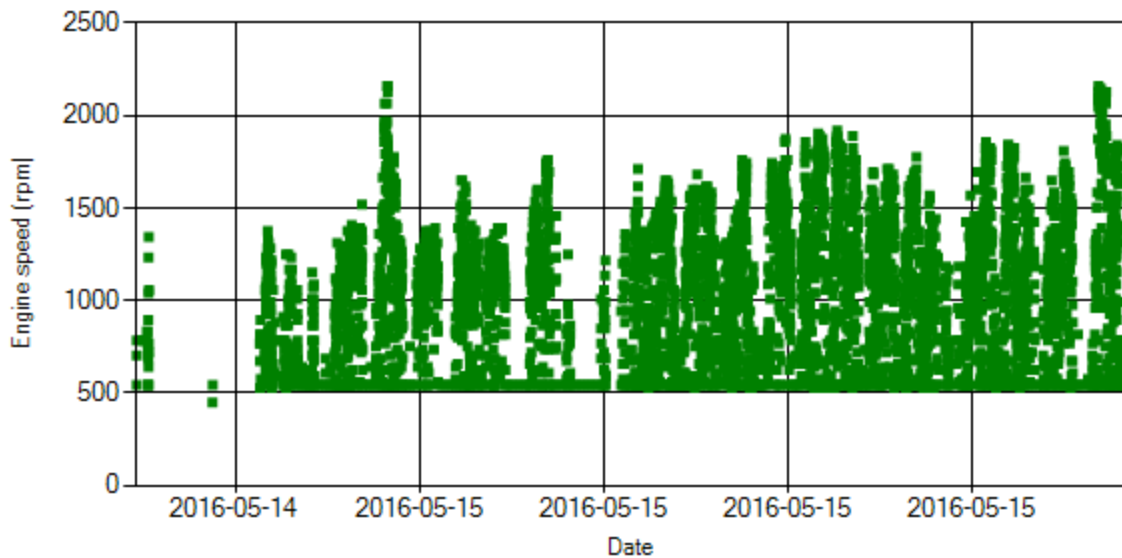


Figure 9- Engine speed diagram for calculating CPK's working days

Pressure-Engine Speed diagrams

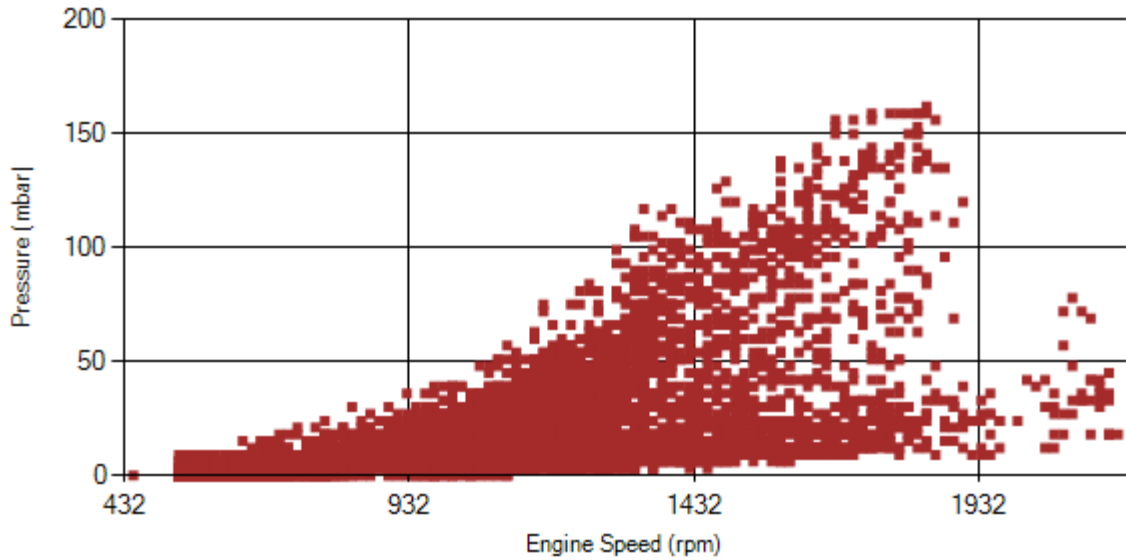


Figure 10- Pressure against engine speed

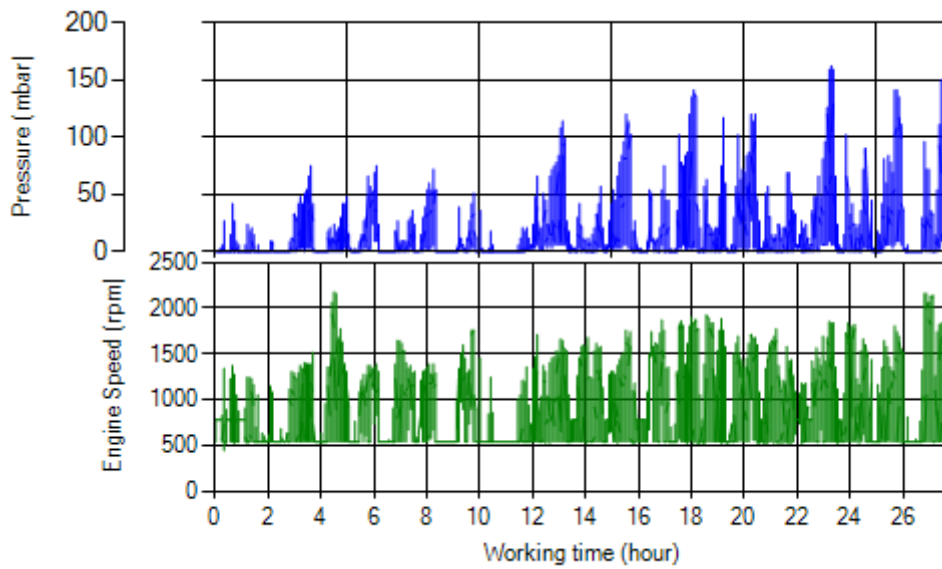


Figure 11- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

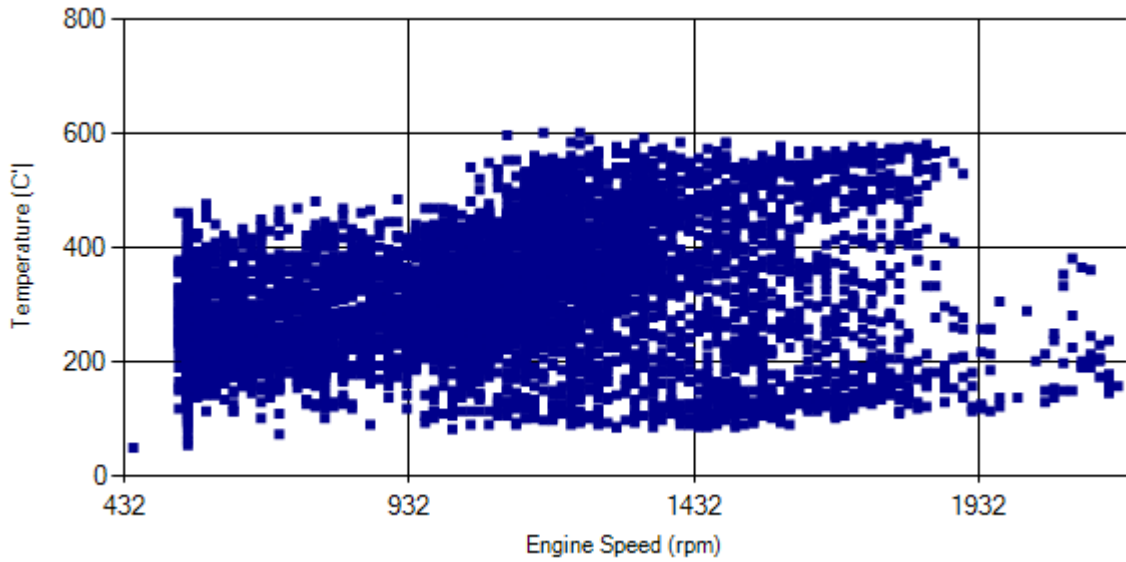


Figure 12- Temperature against engine speed

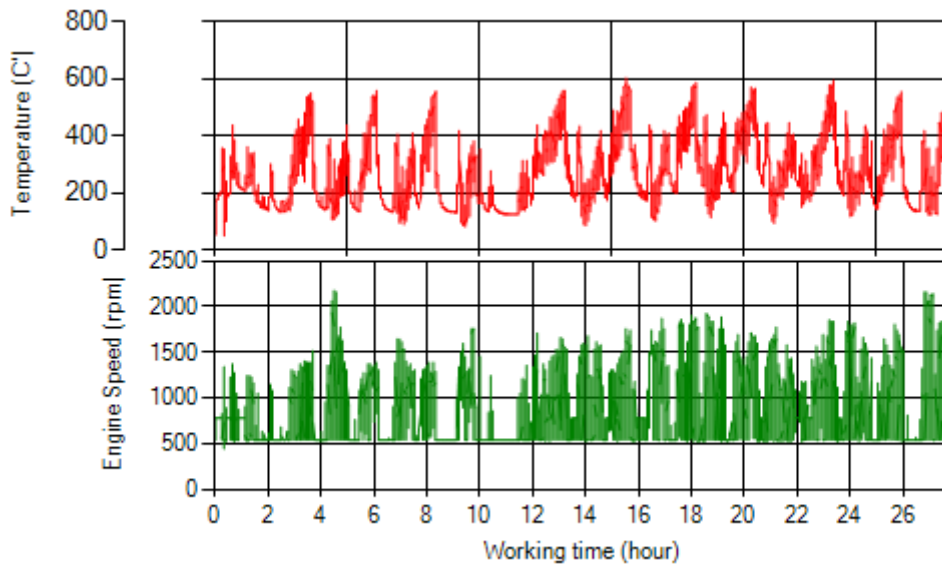


Figure 13- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in Figure 1, only 0.19% of working time, pressure was above 150 mbar.
- Figure 2 displays flow temperature before the DPF. It can be obviously observed that 14.1% of total working time temperature is above 400 °C and 22.6% above 350°C.
- Considering available data DPF operation was excellent during the period.

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