

Notice: System was working over this period without DPF.

Overall Information

Table1- Overall Information

| | |
|--------------------------|--|
| Vehicle plate number | 33637 (34119) |
| CPK data logger number | LN: 001492, DN: 1933, Sim +989210000000 |
| Bus line | Number 2 (west to east bus line) |
| Bus Terminals | Khavaran Bus Terminal - Western Bus Terminal |
| Total path distance | 19 km |
| DPF company producer | Dinex_02 (Passive system with FBC) |
| Installation date | 02/Jun/2015 |
| Report period | 16/Sep/2015 – 30/Sep/2015 (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 has been removed after two weeks working on Jun 17 th . After receiving cleaning machine DPF was cleaned on Aug 10 th and was installed on Aug 22 nd but worked only for ten days. The last cleaning was done on Sep 24 th but cleaning issue was unavoidable after only three days working. Finally DPF was replaced by muffler on Sep 8 th and system have been working from that date without DPF. |
| Dosing status | Additive dosing was increased 60% of its initial value for tests two and three. |

Table 3- Fuel and Additive Consumption Information

| | |
|---|----------------------|
| Bus mileage over the period | 2190 km |
| Working days over the period | 13 days |
| Stop days | 2 days |
| Data logger working days | 13 days |
| Working hours over the period | 200 hours 23 minutes |
| Average working hours per day (including stop days) | 13 hours 21 minutes |
| Bus average speed | 10.93 km/hr |
| idle speed time to all working time ration | 57.04 % |
| Total Bus fuel consumption over the period | 1440 lit |
| Fuel consumption per hour | 7.19 lit/hr |
| Average fuel consumption | 0.66 lit/km |

Temperature, Pressure and Engine Speed Overview

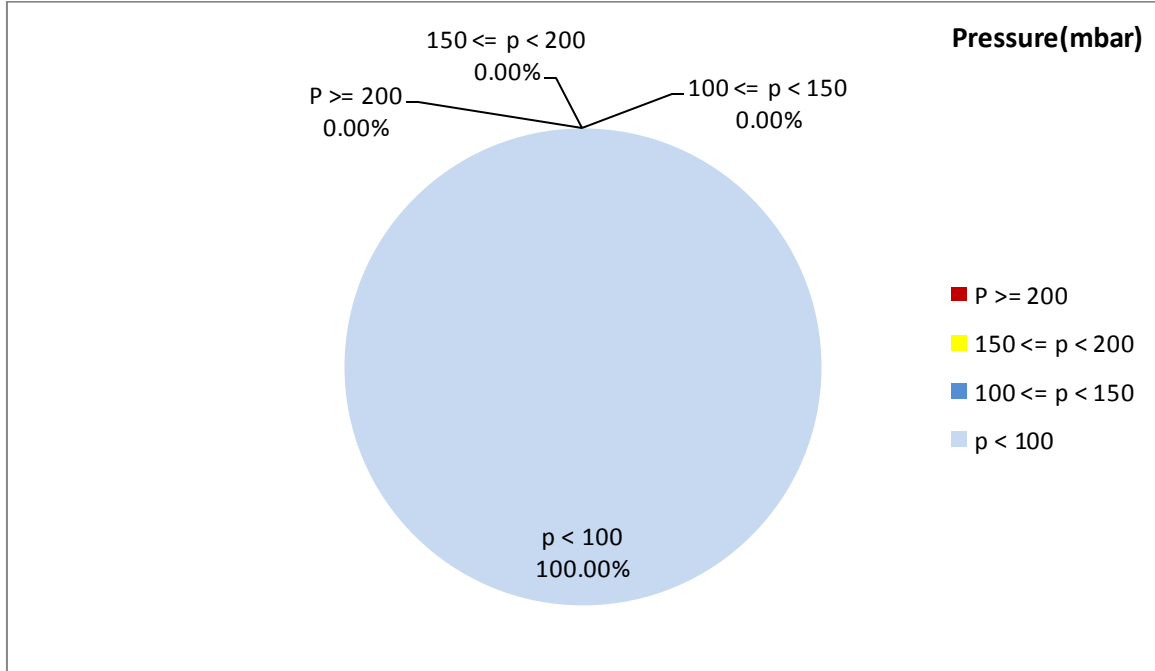


Figure 1- Pressure distribution over the working hours

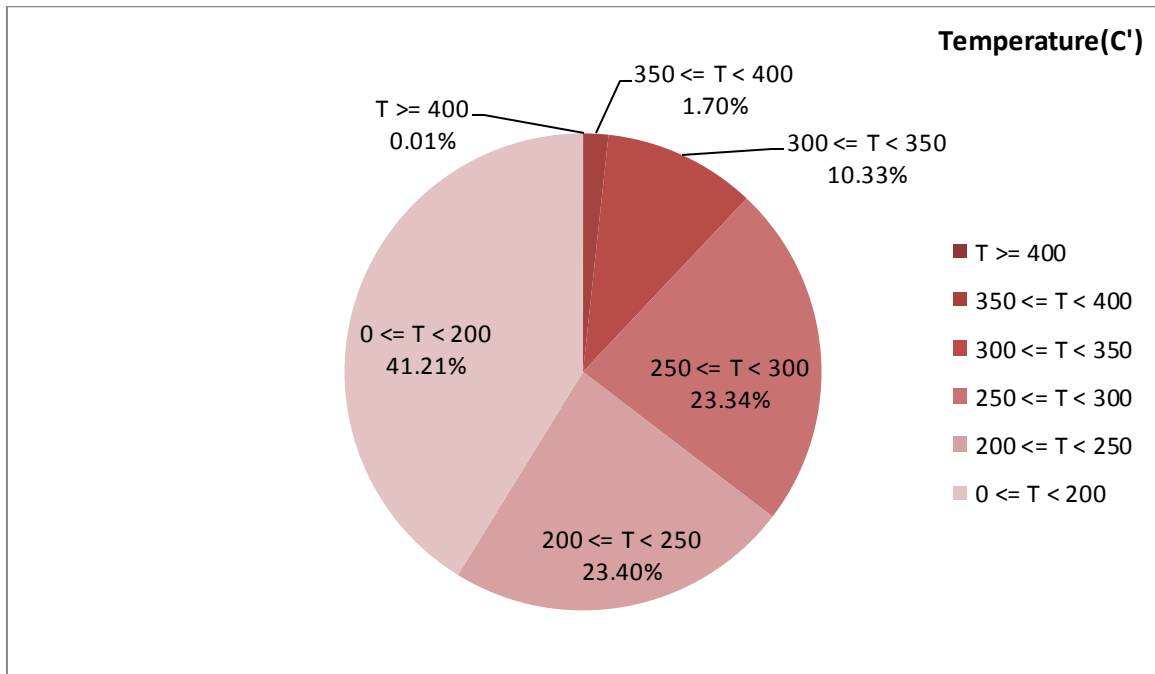


Figure 2-Temperature distribution over the working hours

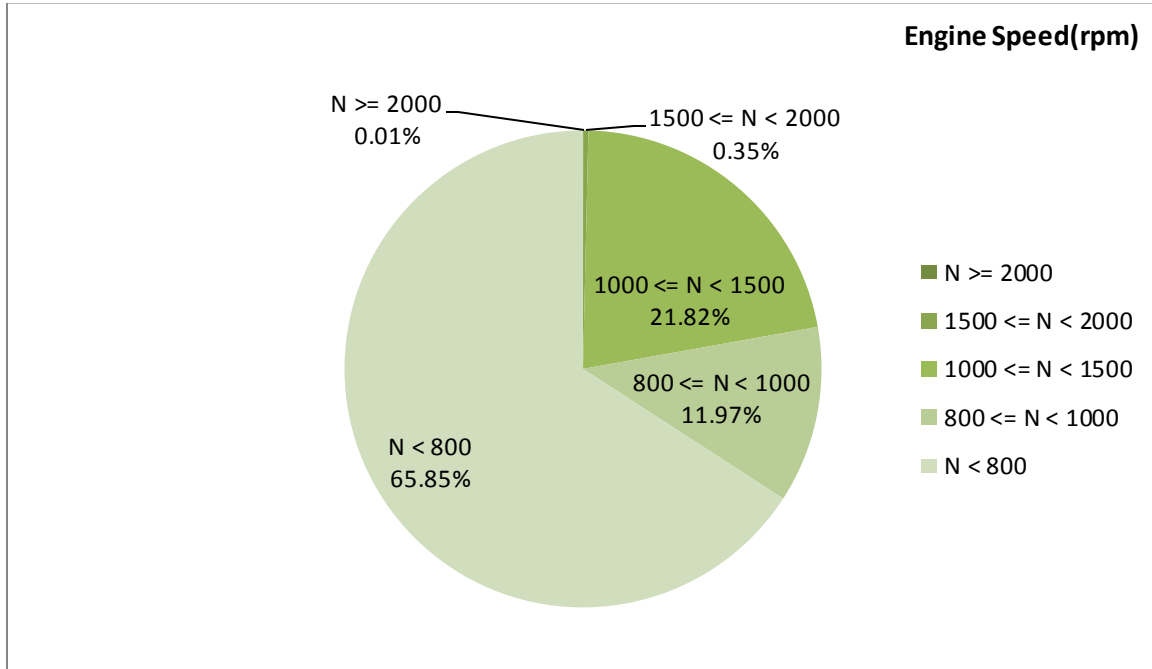


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 219.66 | 1.61 | 769 |

Table 5- Mean values without idling

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 269.17 | 3.74 | 978 |

Table 6- Max-min values

| Max-min temperature(C) | Max-min pressure(mbar) | Max-min engine speed(rpm) |
|------------------------|------------------------|---------------------------|
| 410-50 | 90-0 | 2128-272 |

Detailed Pressure Analysis

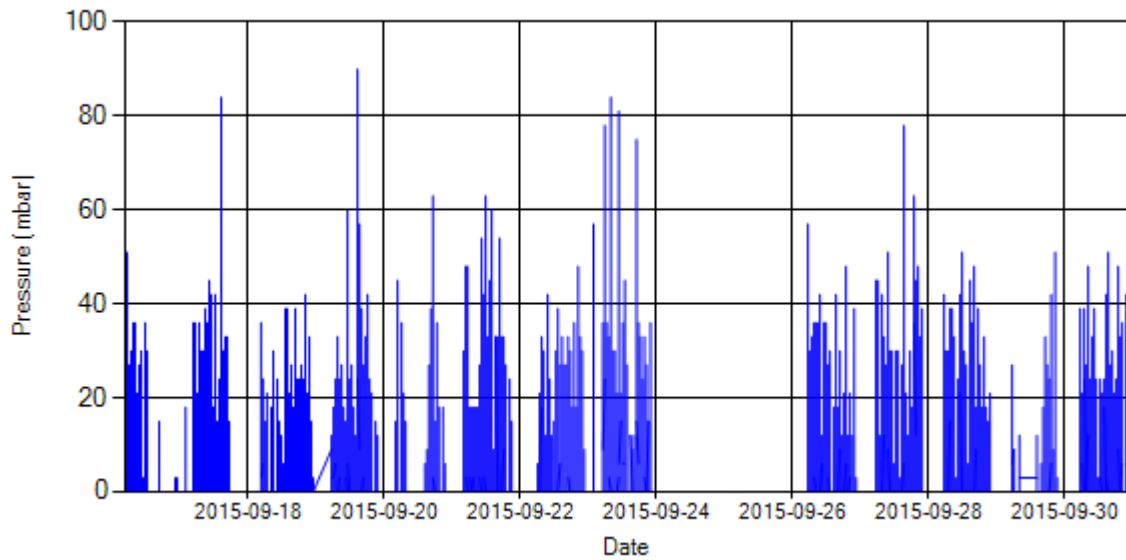


Figure 4- Pressure distribution over the period

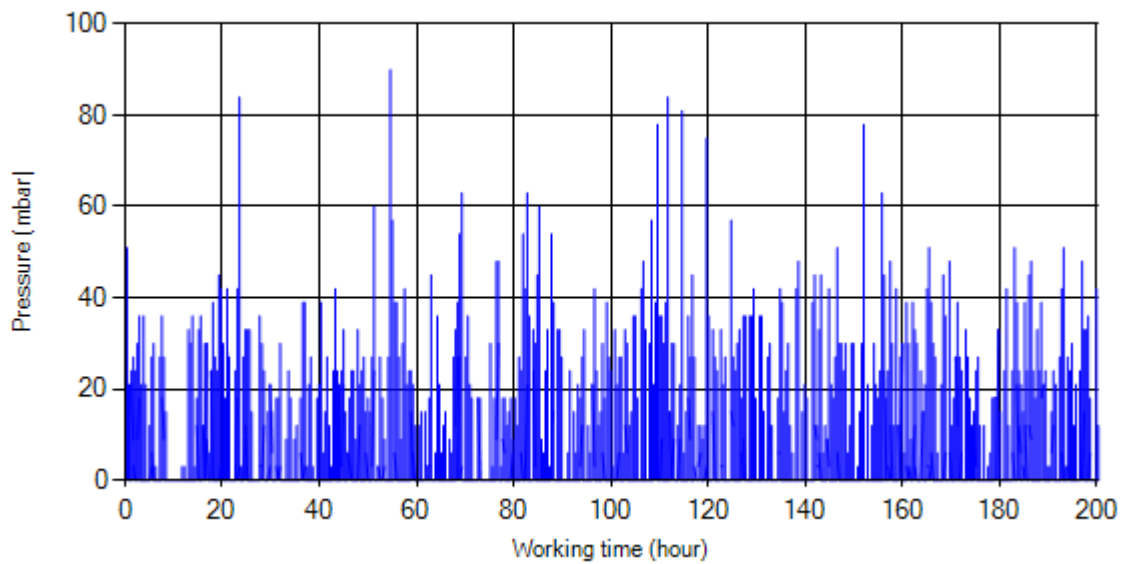


Figure 5- Pressure vs. working hours

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

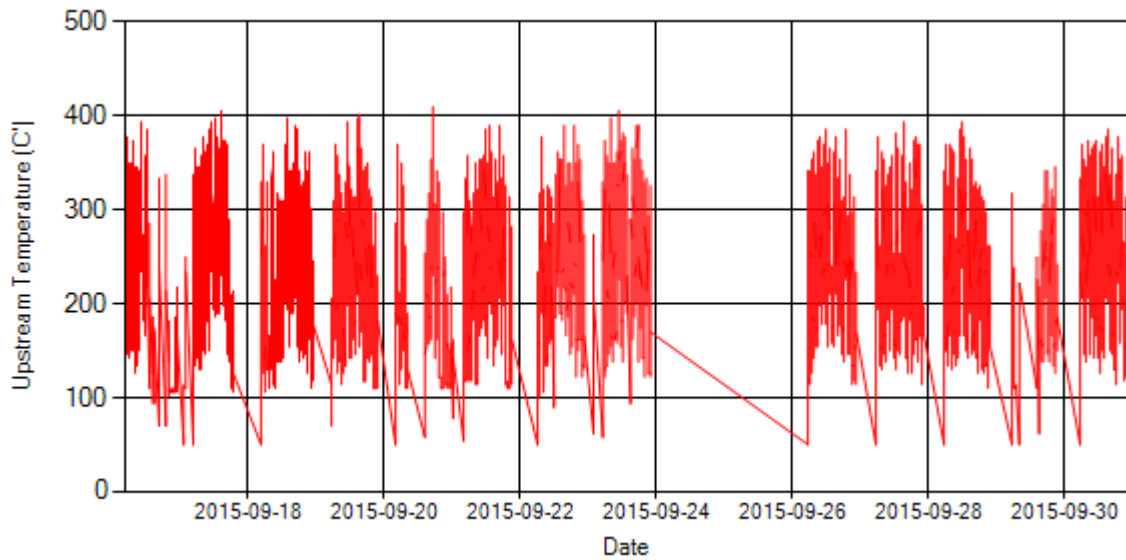


Figure 6- Temperature distribution over the period

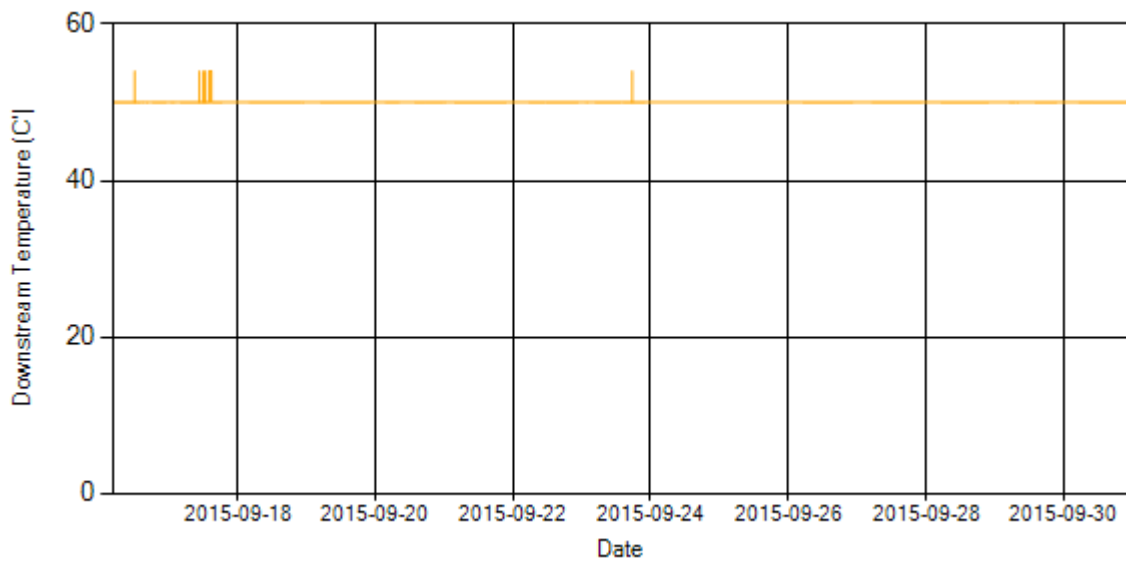


Figure 7- Temperature distribution over the period

Notice: Temp 2 sensor had problem during this period.

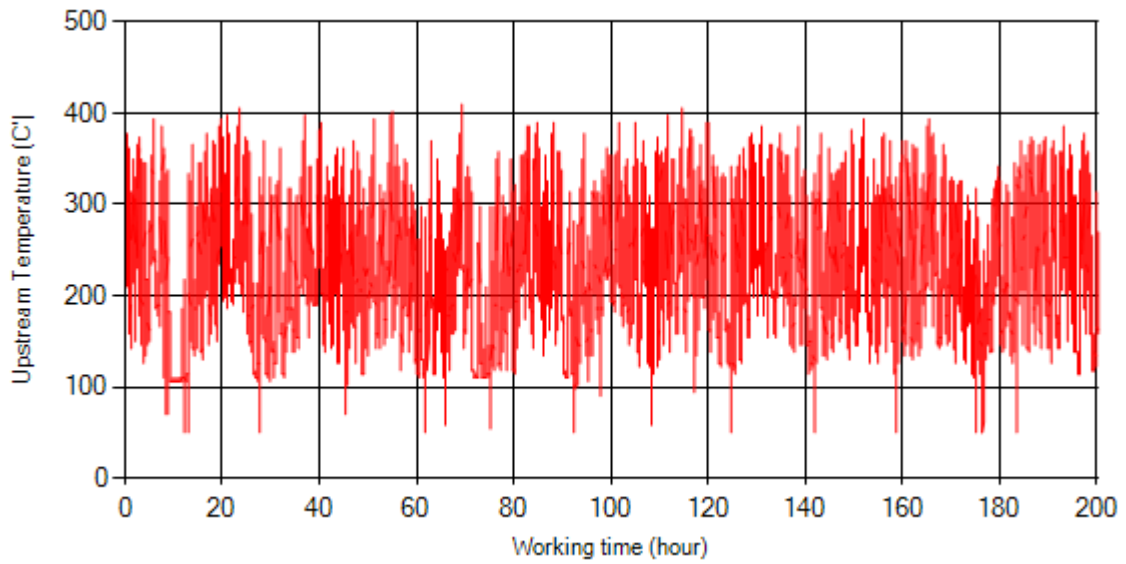


Figure 8- Temperature vs. working hours

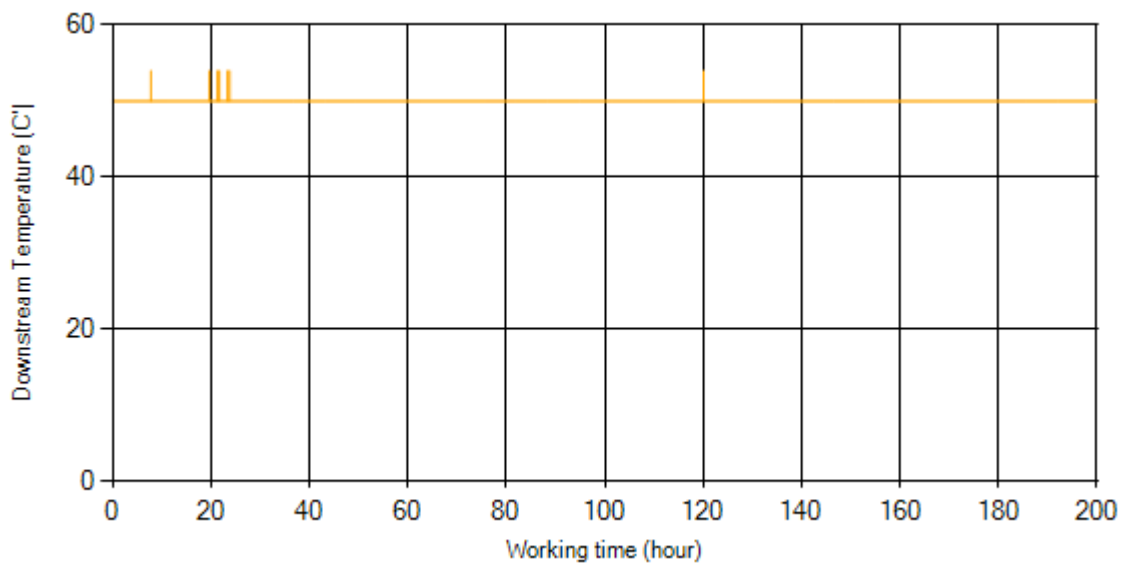


Figure 9- Temperature vs. working hours

Engine Speed Diagrams

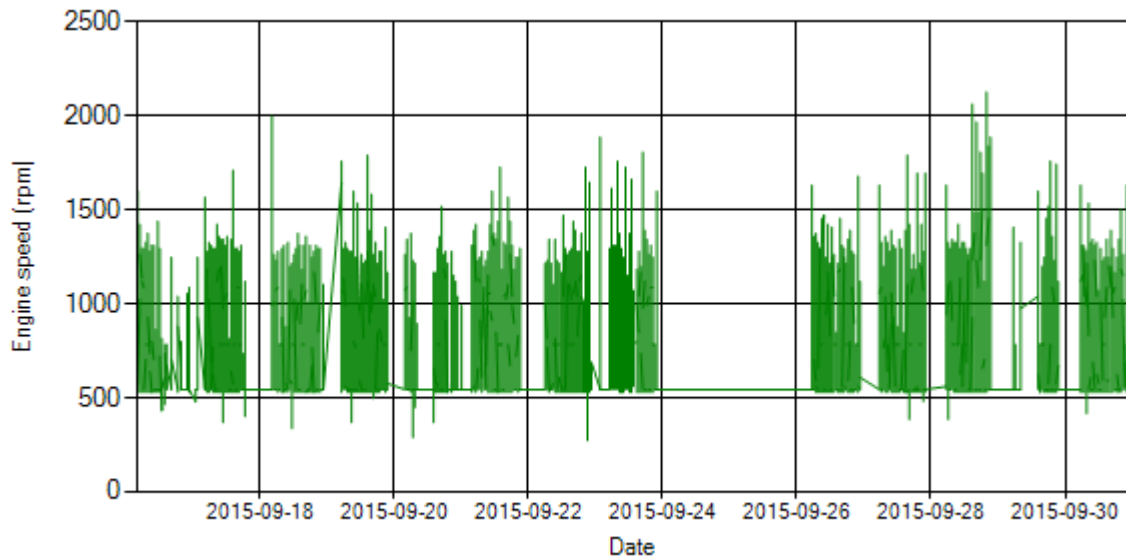


Figure 10- Engine speed distribution over the period

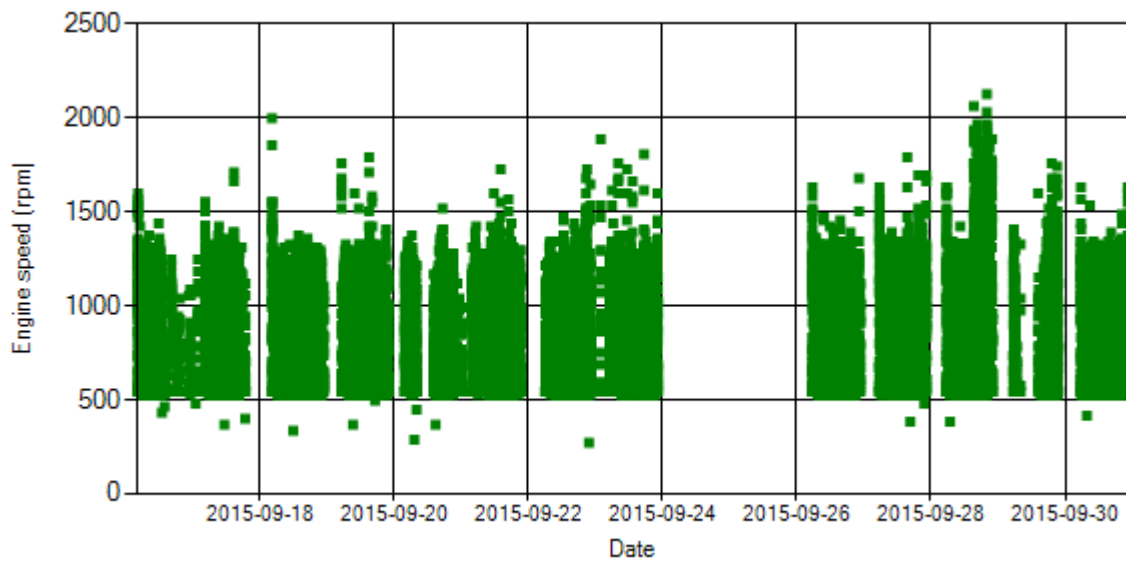


Figure 11- Engine speed diagram for calculating CPK's working days

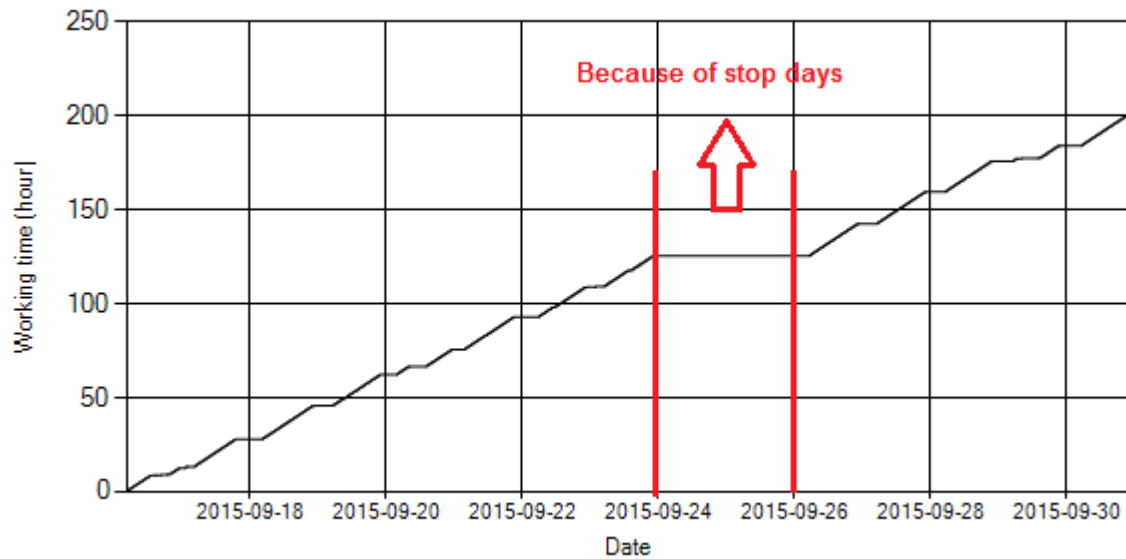


Figure 12- Time diagram for calculating CPK's working days

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

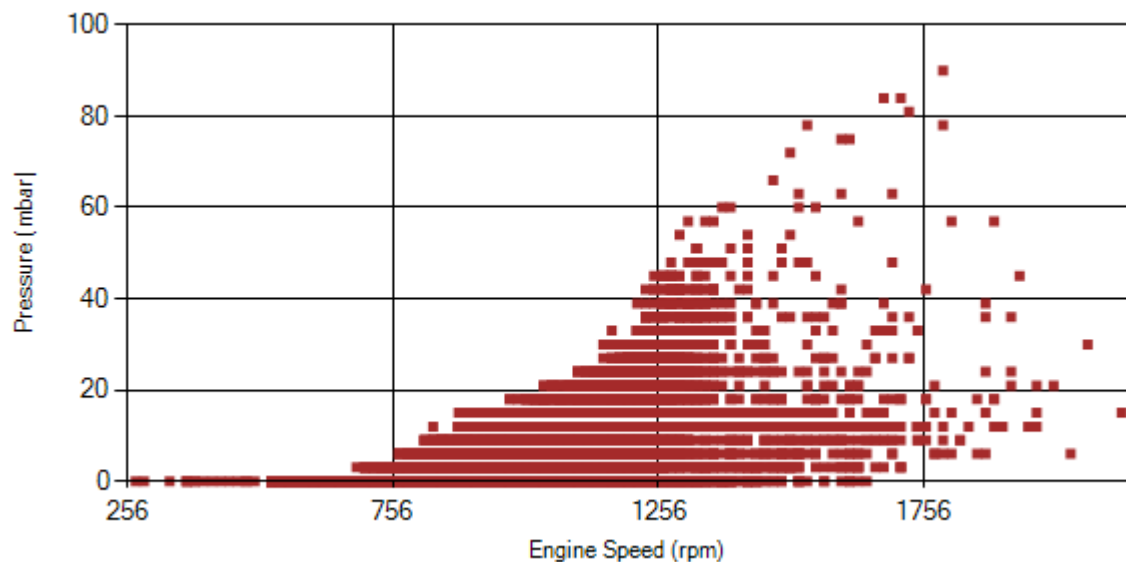


Figure 13- Pressure against engine speed

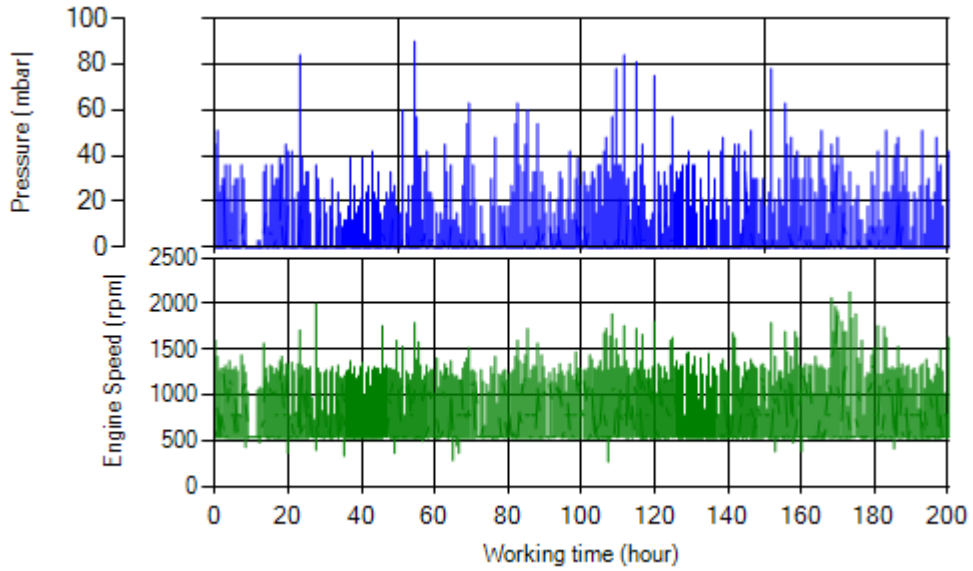


Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

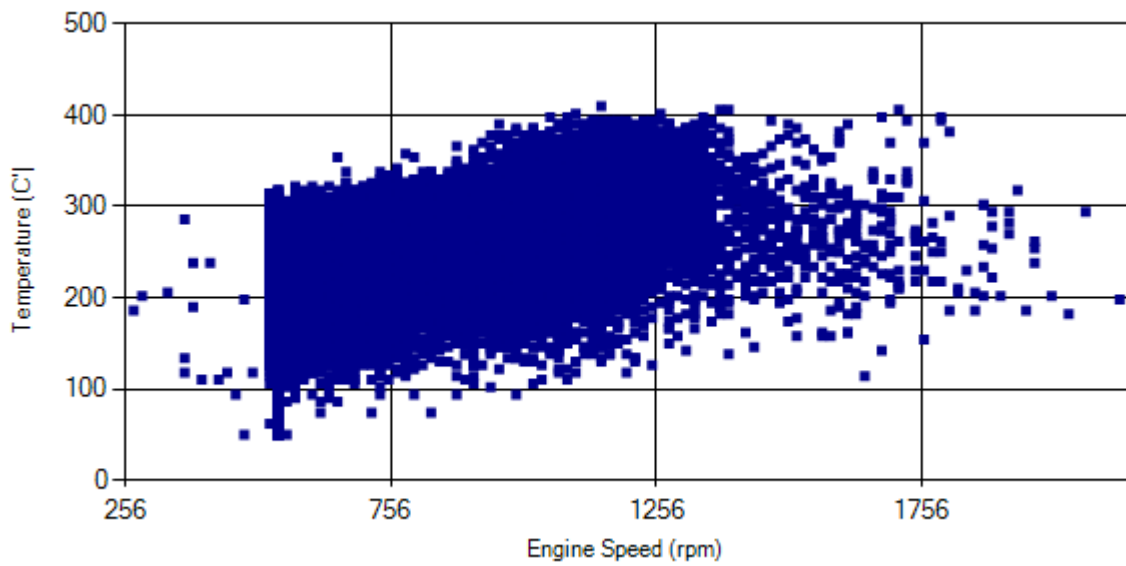


Figure 15- Temperature against engine speed

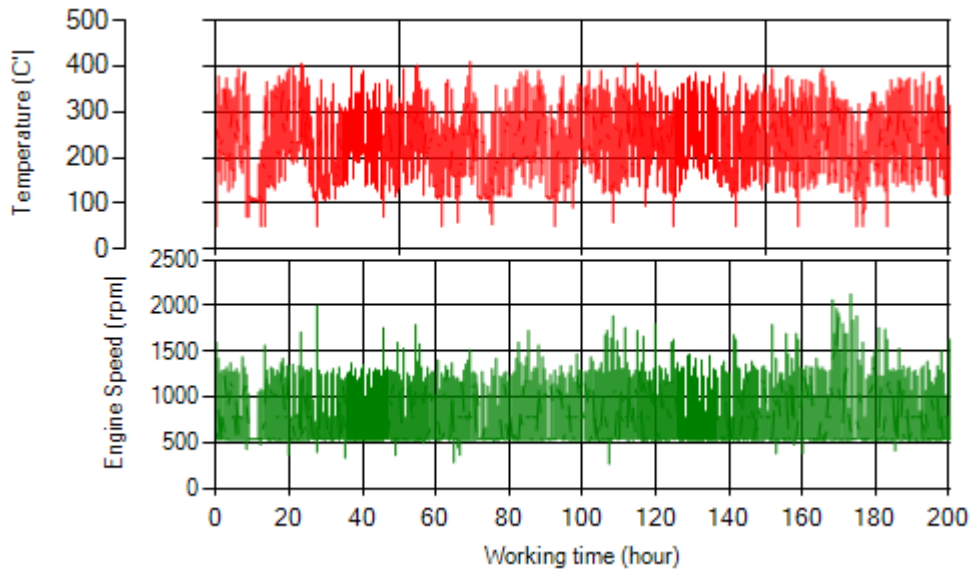


Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

Notice: System was working over this period without DPF.