

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 | 16/May/2016 – 31/May/2016 (sixteen 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. 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) | 85215 km |
| Bus mileage over the period | 3896 km |
| Working days over the period | 16 days |
| Stop days | 0 day |
| Data logger working days | 16 days |
| Working hours over the period | 241 hours 52 minutes |
| Average working hours per day (including stop days) | 15 hours 7 minutes |
| Bus average speed | 16.1 km/hr |
| idle speed time to all working time ration | 34.51 % |
| Total Bus fuel consumption over the period | 2065 lit |
| Fuel consumption per hour | 8.53 lit/hr |
| Average fuel consumption | 0.53 lit/km |
| Total Bus additive consumption over the period | 0.98 lit |
| Average additive consumption | 253 cc/km |
| Additive consumption to fuel ration | 478 cc/1000lit |

Temperature, Pressure and Engine Speed Overview

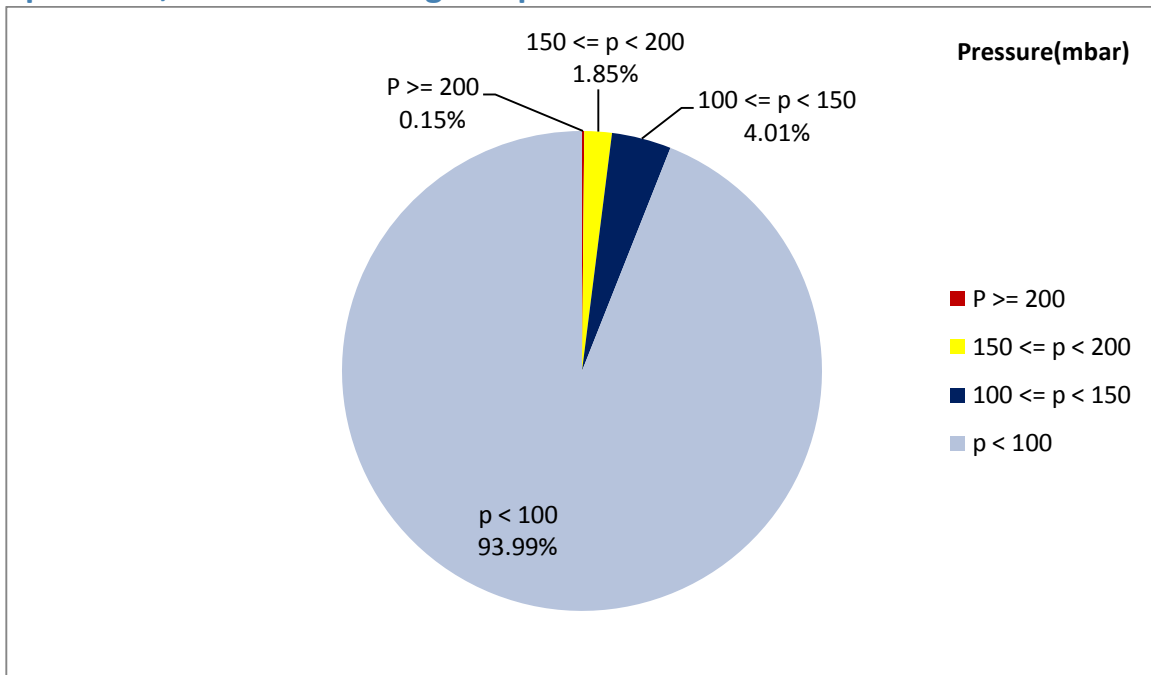


Figure 1- Pressure distribution over the working hours

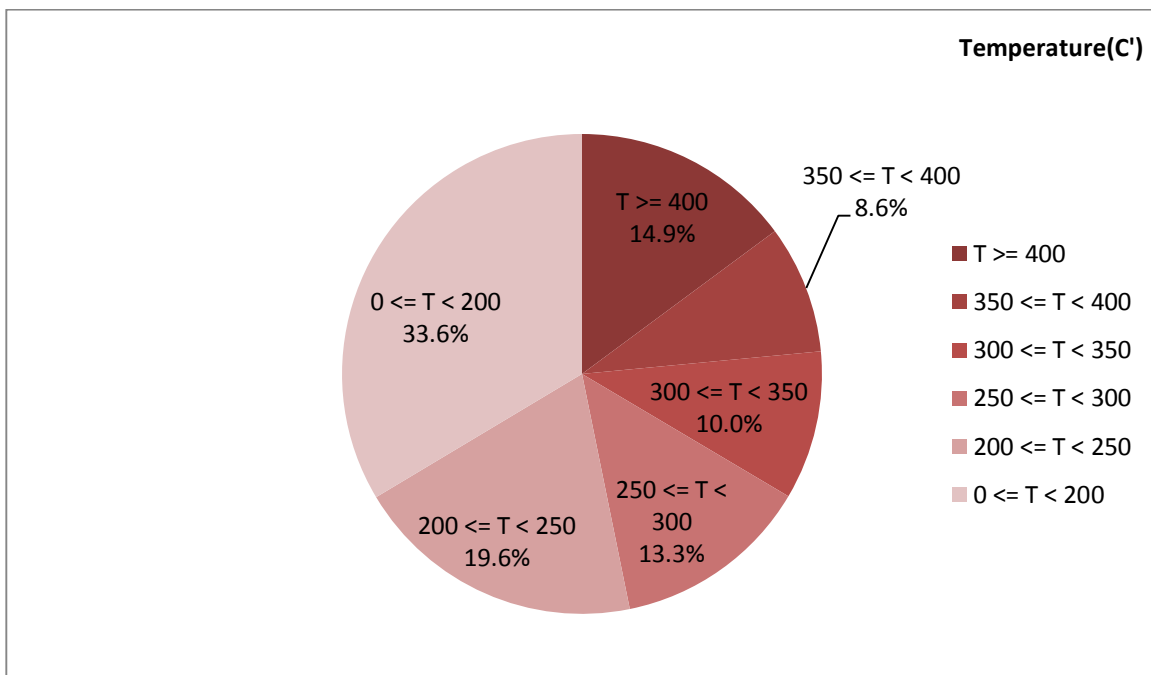


Figure 2-Temperature distribution over the working hours

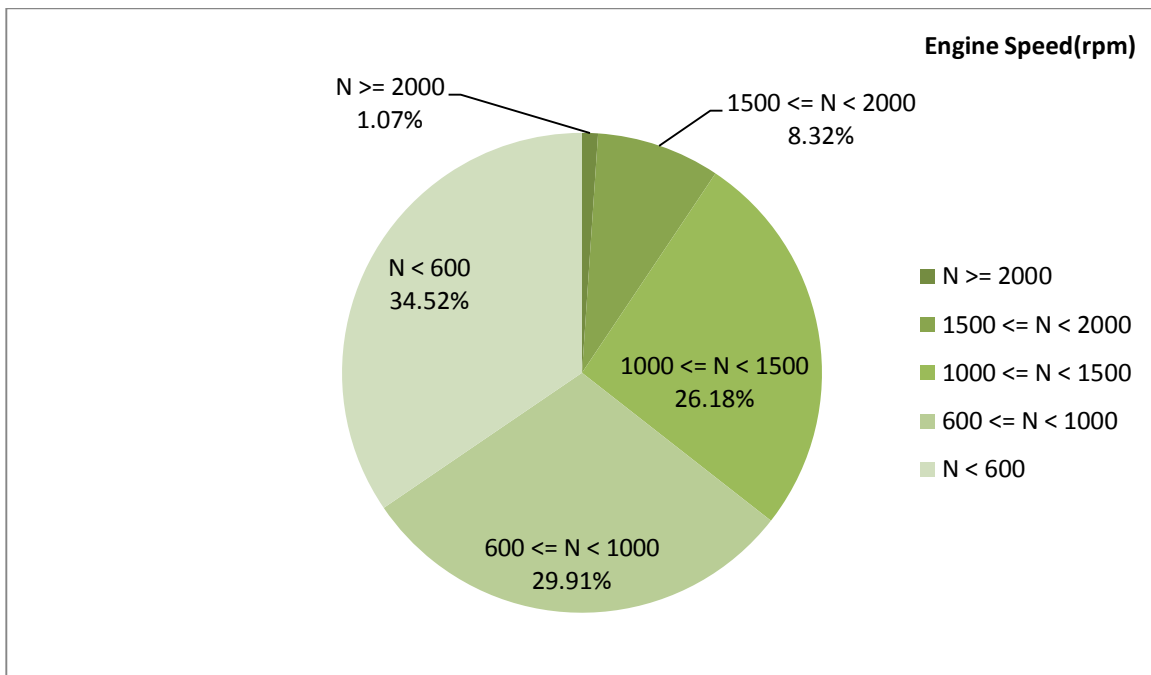


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 268.67 | 27.89 | 904 |

Table 5- Mean values without idling

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 307.11 | 39.33 | 1093 |

Table 6- Max-min values

| Max-min temperature(C) | Max-min pressure(mbar) | Max-min engine speed(rpm) |
|------------------------|------------------------|---------------------------|
| 650-50 | 228-0 | 2336-304 |

Detailed Pressure Analysis

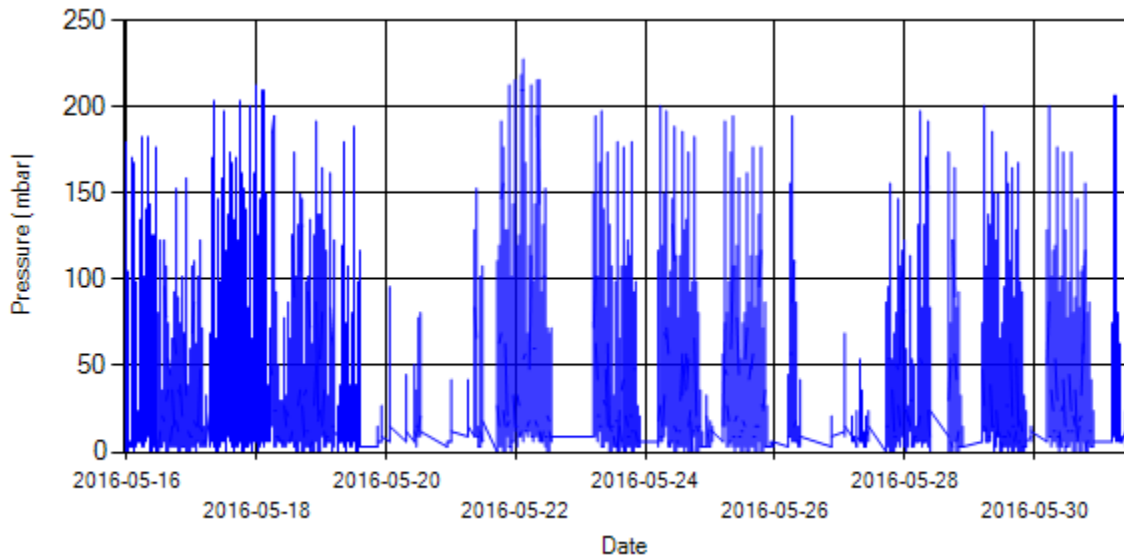


Figure 4- Pressure distribution over the period

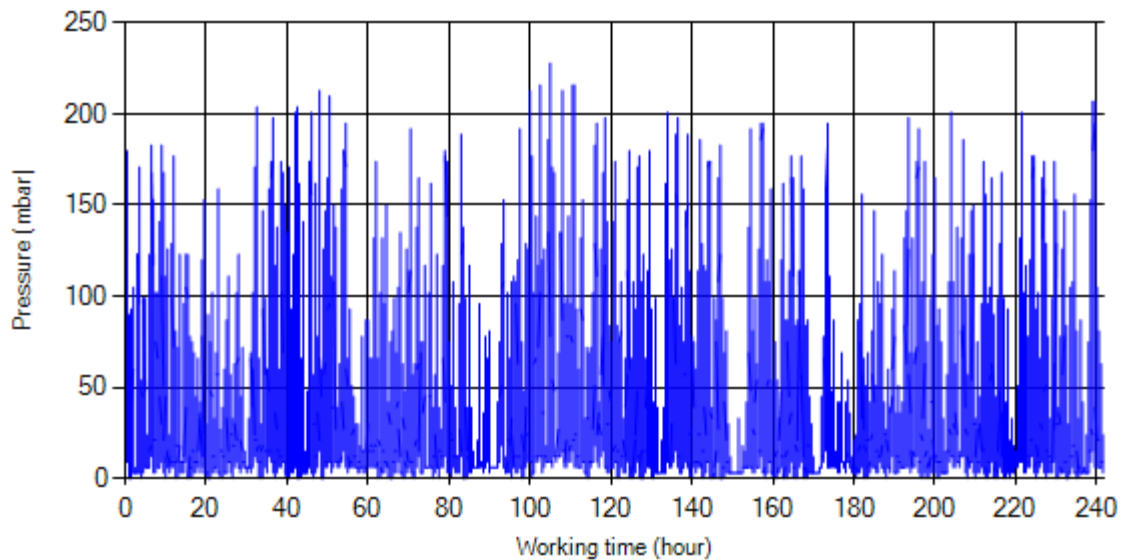


Figure 5- Pressure vs. working hours

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

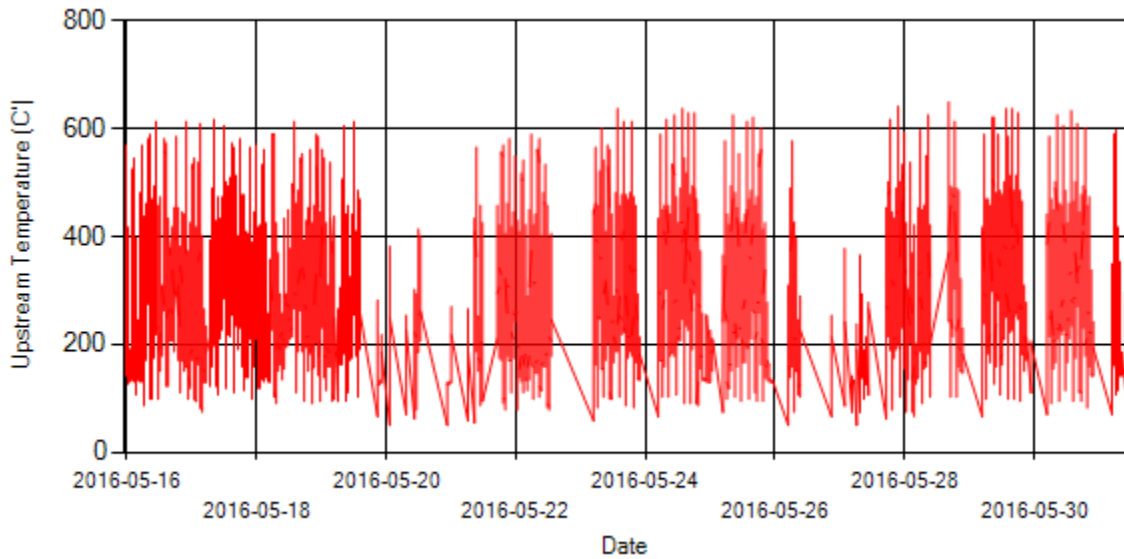


Figure 6- Temperature distribution over the period

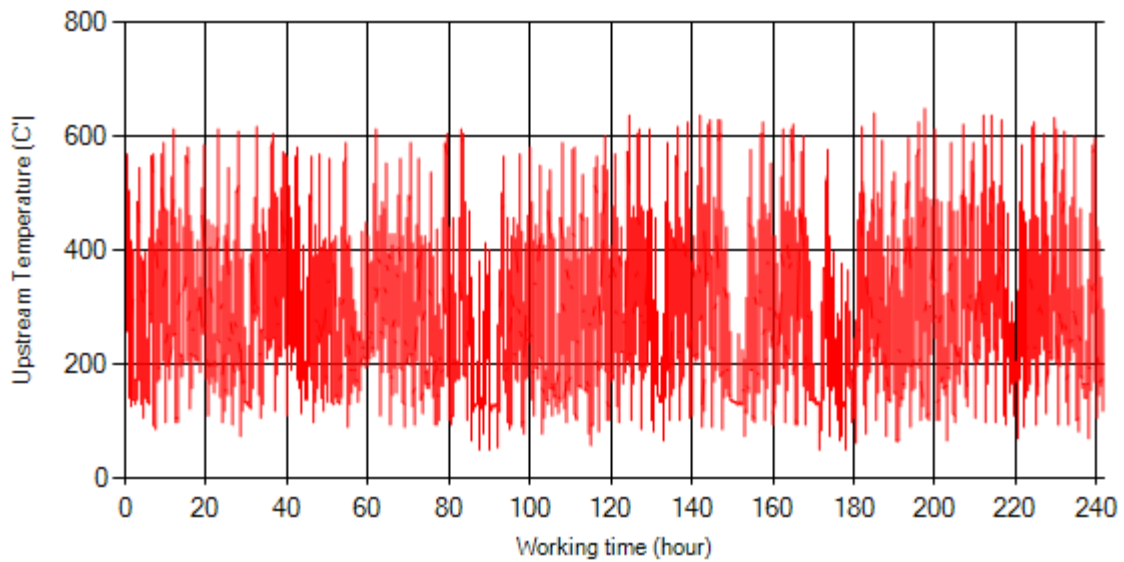


Figure 7- Temperature vs. working hours

Engine Speed Diagrams

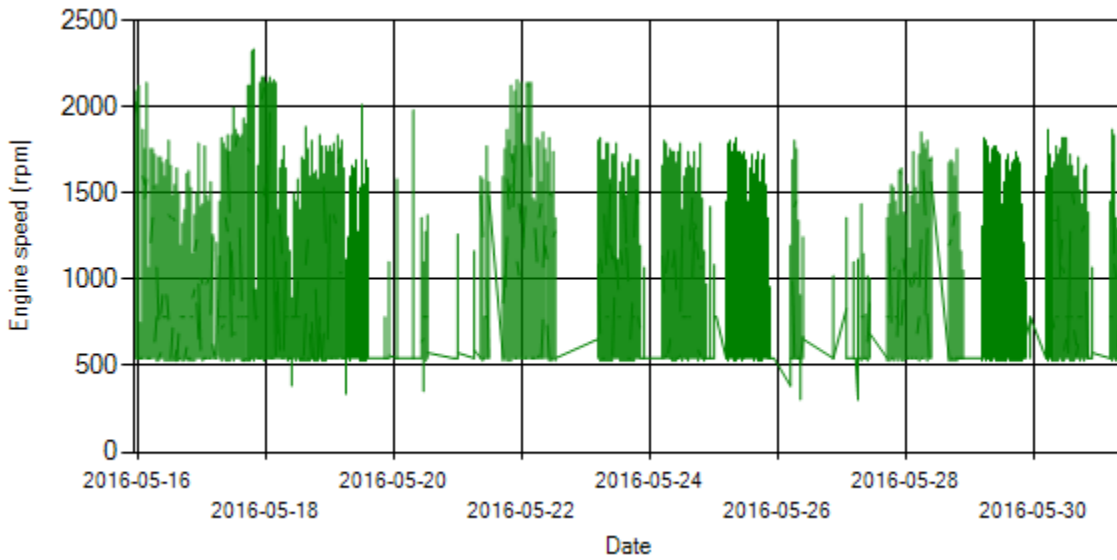


Figure 8- Engine speed distribution over the period

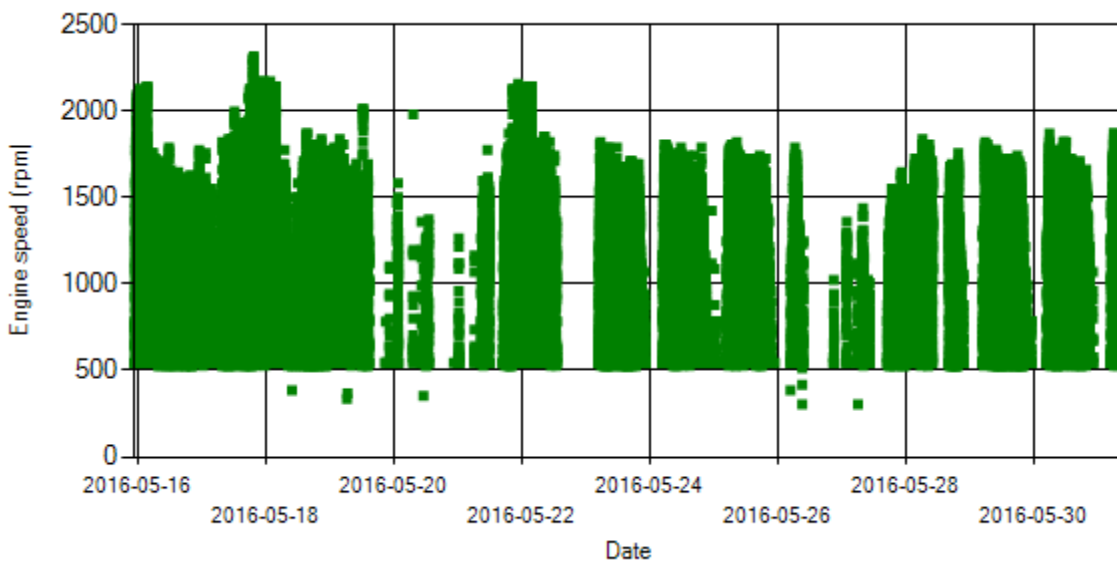


Figure 9- Engine speed diagram for calculating CPK's working days

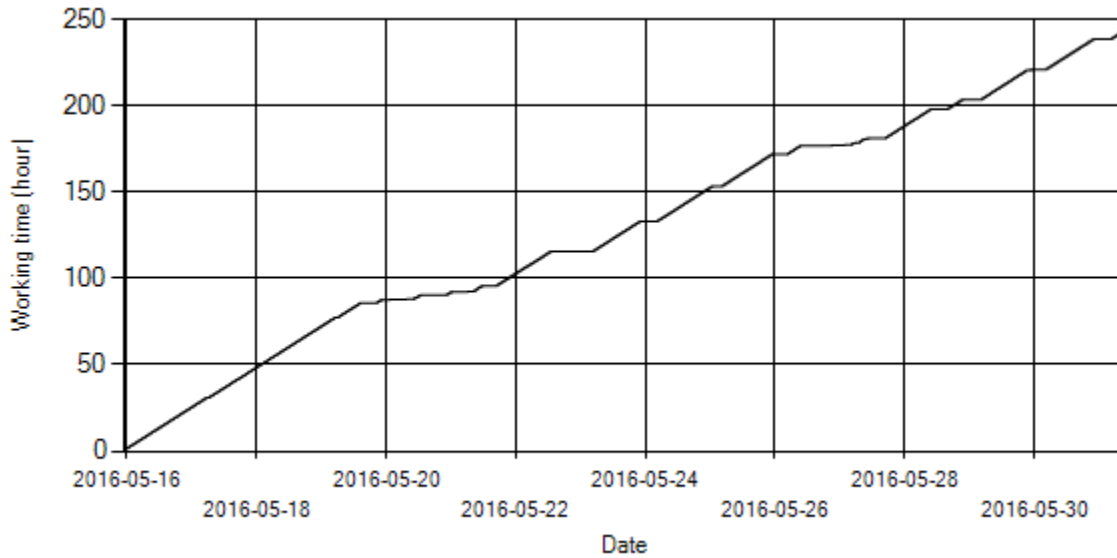


Figure 10- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 10. The lines parallel with Date axis show days without data logger data.

Pressure-Engine Speed diagrams

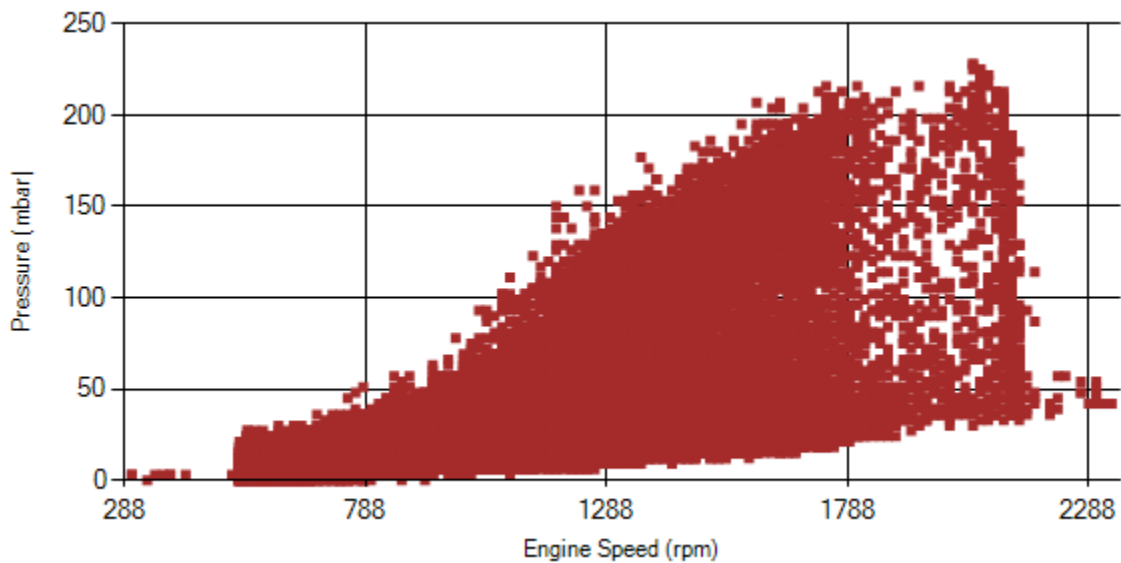


Figure 11- Pressure against engine speed

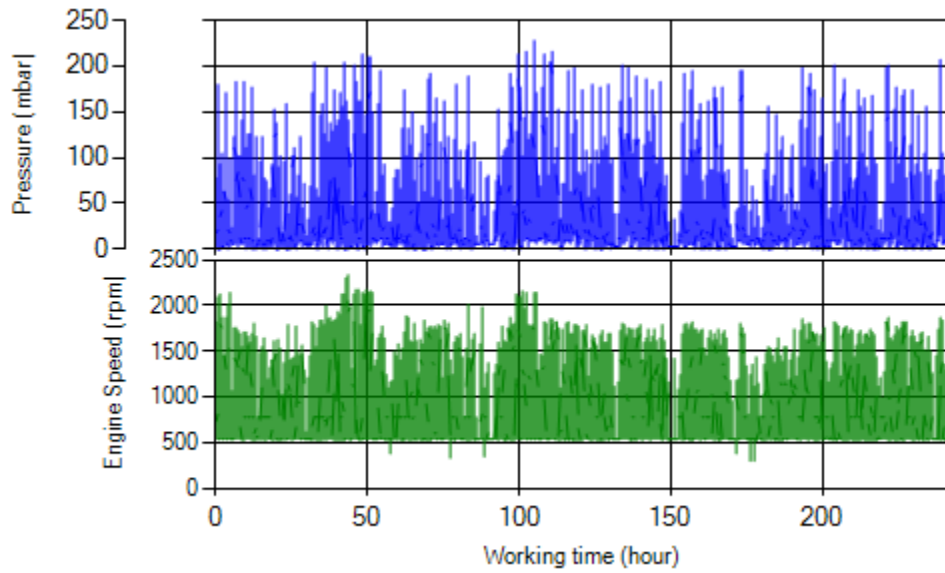


Figure 12- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

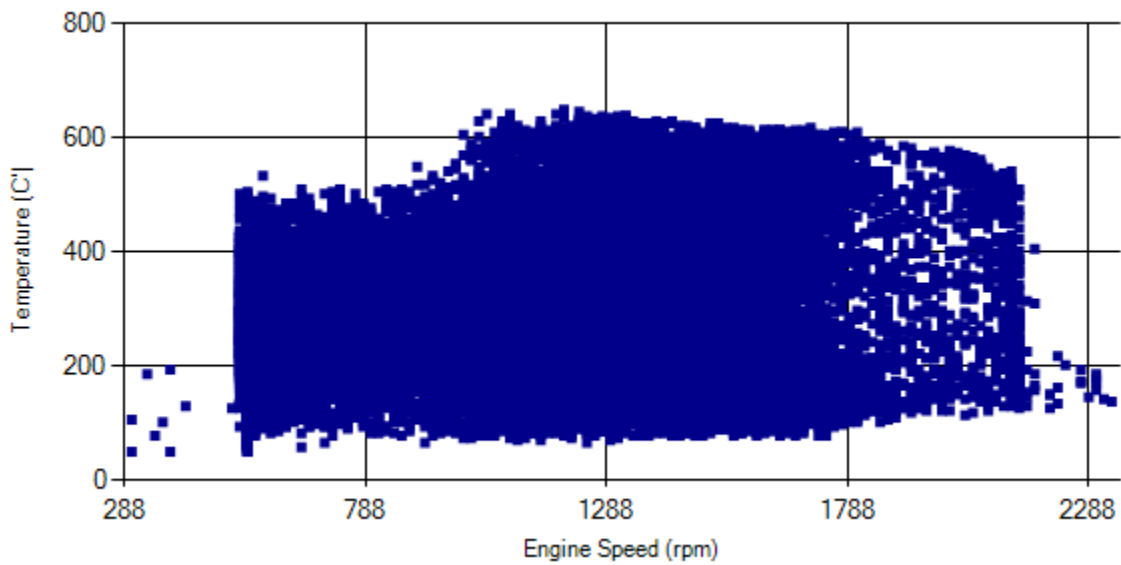


Figure 13- Temperature against engine speed

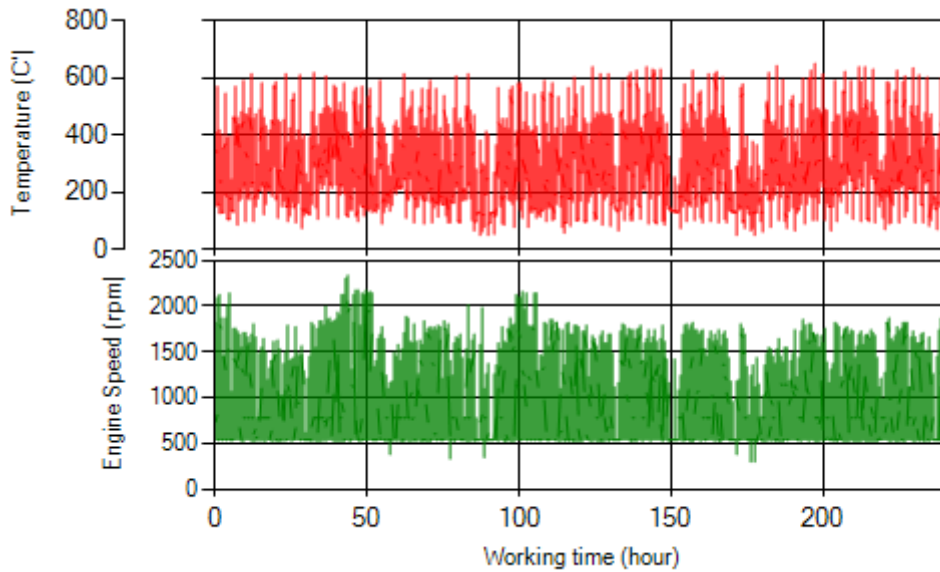


Figure 14- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in Figure 1, only 0.15% of working time, pressure was above 200 mbar.
- Figure 2 displays flow temperature before the DPF. It can be obviously observed that 14.9% of total working time temperature is above 400 °C and 23.5% above 350°C.

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