

Overall Information

Table1- Overall Information

| | |
|--------------------------|--|
| Vehicle plate number | 85476 |
| CPK data logger number | LN: 001508, DN: 2003, Sim +989218469624 |
| Bus line | Number 10 (south to north Bus line) |
| Bus Terminals | Azadi square - Daneshgah square |
| Total path distance | 10.7 km |
| DPF producer company | HJS_04 (Passive system with FBC) |
| Installation date | 23/Feb/2015 |
| Report period | 16/Jun/2016 – 30/Jun/2016 (fifteen days) |
| K value - DPF upstream | 1.90 [1/m] |
| K value – DPF downstream | 0.02 [1/m] |

Table 2- DPF Maintenance History

| | |
|-------------------------|---|
| Filter maintenance date | DPF was cleaned on 22 nd Jul for the first time and on 15 th Dec for the second time after 44355 km mileage from installation date. |
| 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) | 70851 km |
| Bus mileage over the period | 1276 km |
| Working days over the period | 10 days |
| Stop days | 5 days |
| Data logger working days | 10 days |
| Working hours over the period | 79 hours 37 minutes |
| Average working hours per day (including stop days) | 5 hours 18 minutes |
| Bus average speed | 16 km/hr |
| idle speed time to all working time ration | 27.97 % |
| Total Bus fuel consumption over the period | 778 lit |
| Fuel consumption per hour | 9.75 lit/hr |
| Average fuel consumption | 0.61 lit/km |
| Total Bus additive consumption over the period | 0.371 lit |
| Average additive consumption | 290.8 cc/km |
| Additive consumption to fuel ration | 477 cc/1000lit |

Temperature, Pressure and Engine Speed Overview

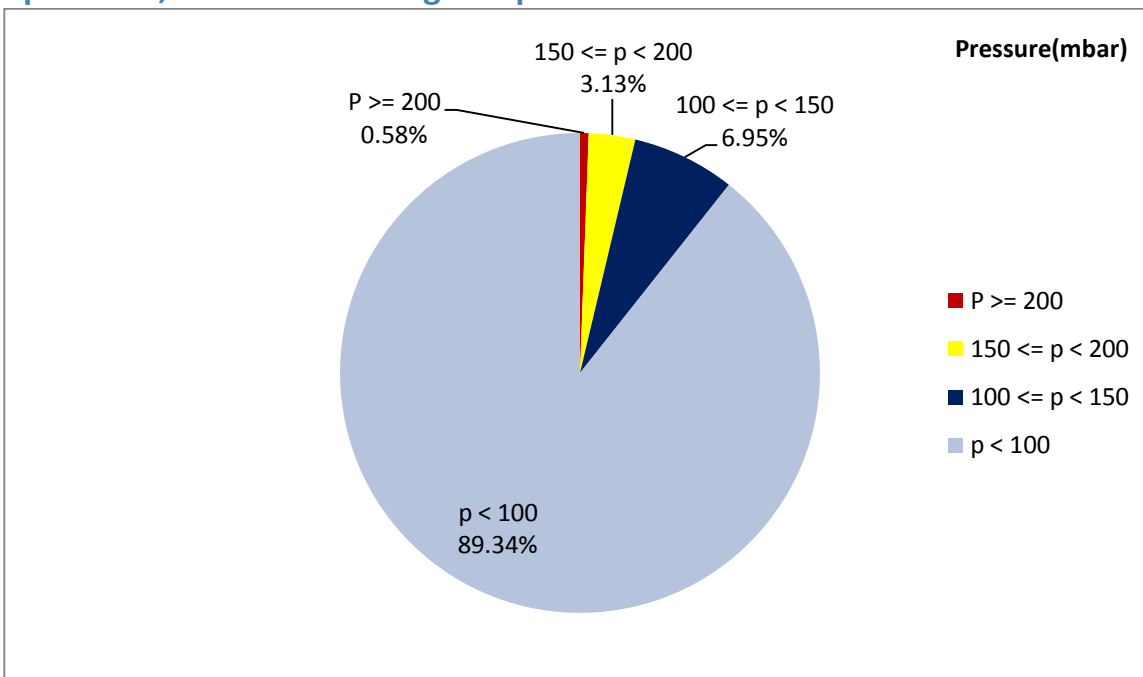


Figure 1- Pressure distribution over the working hours

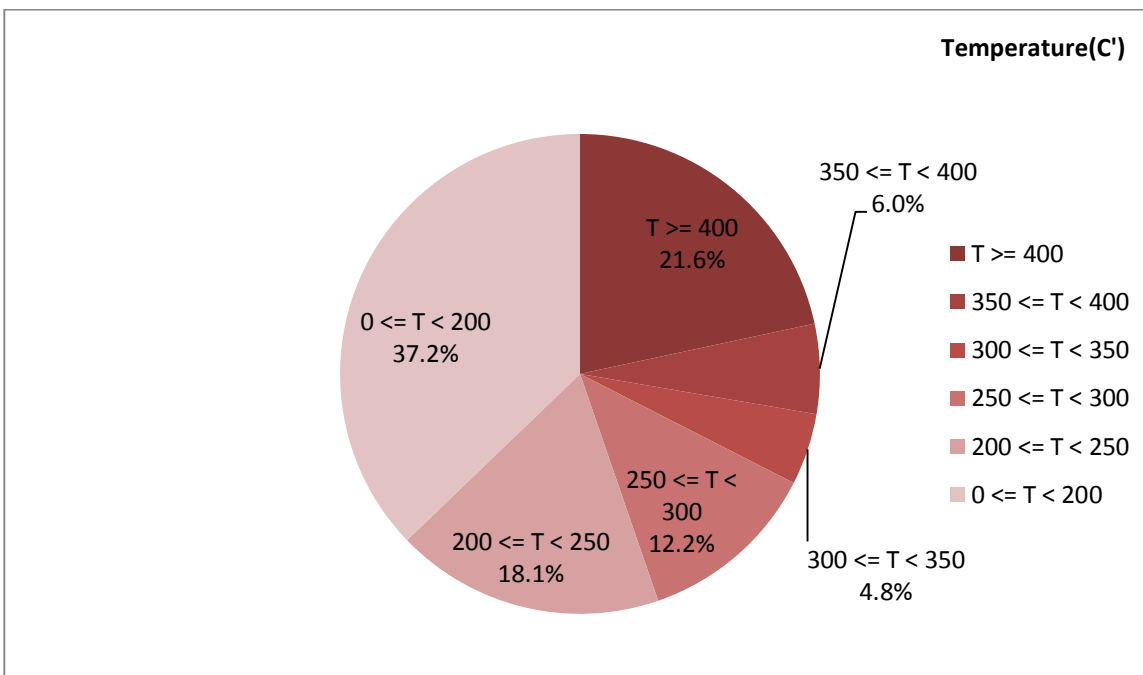


Figure 2-Temperature distribution over the working hours

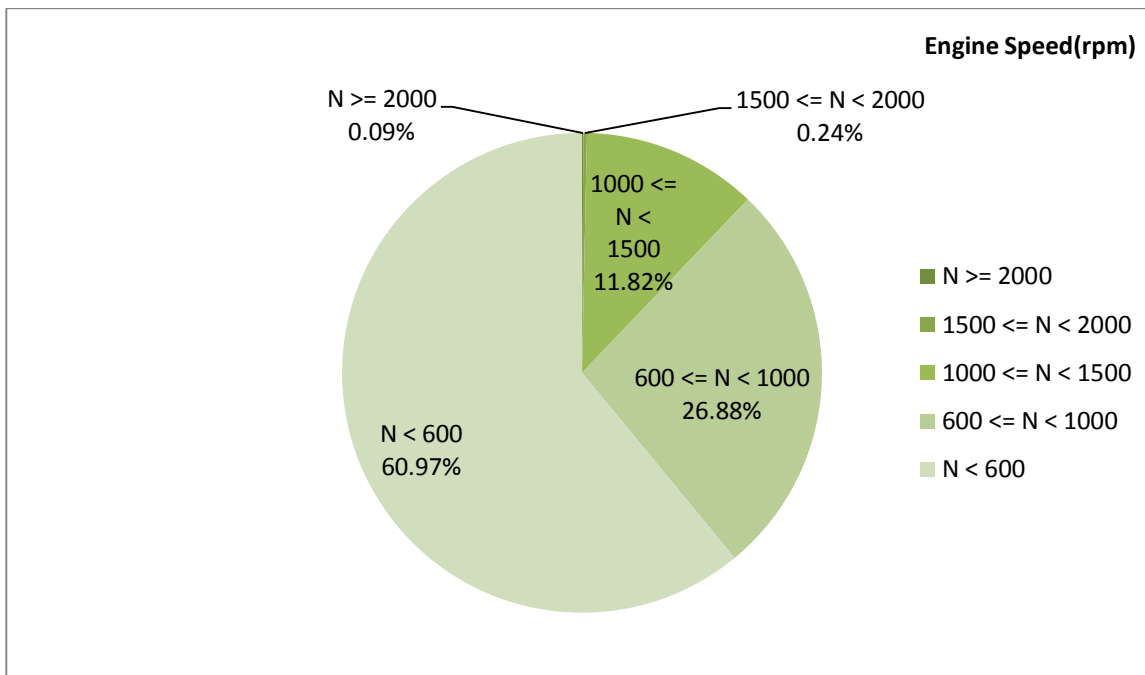


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 264.94 | 37.9 | 600 |

Table 5- Mean values without idling

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 282.82 | 43.8 | 619 |

Table 6- Max-min values

| Max-min temperature(C) | Max-min pressure(mbar) | Max-min engine speed(rpm) |
|------------------------|------------------------|---------------------------|
| 594-50 | 276-3 | 2208-256 |

Detailed Pressure Analysis

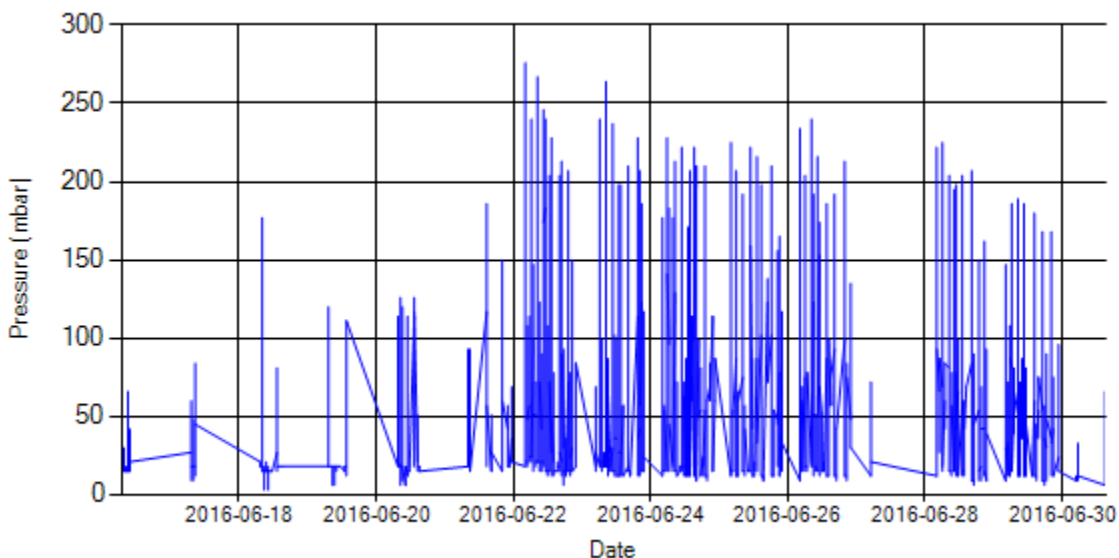


Figure 4- Pressure distribution over the period

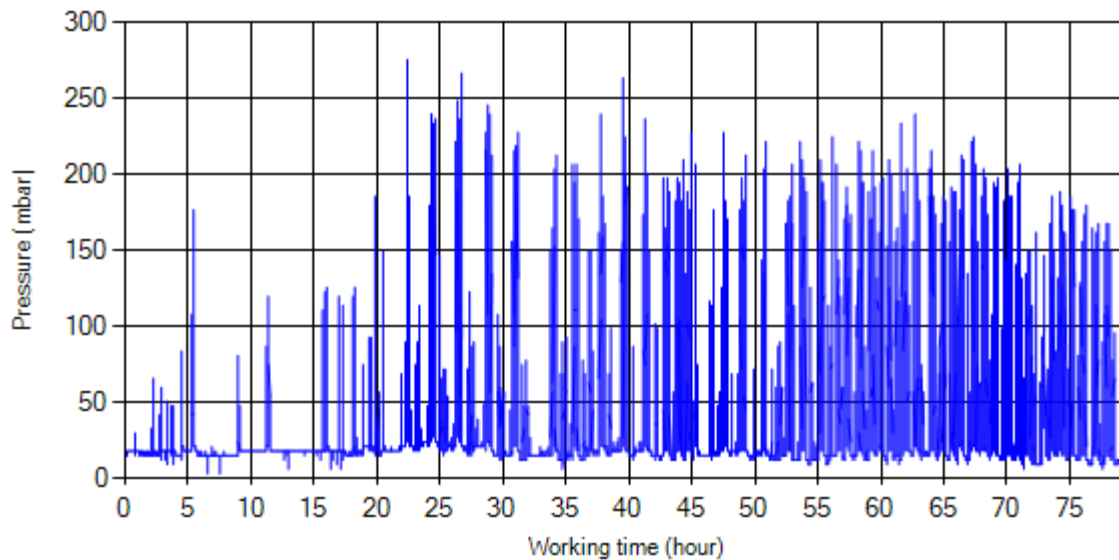


Figure 5- Pressure vs. working hours

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

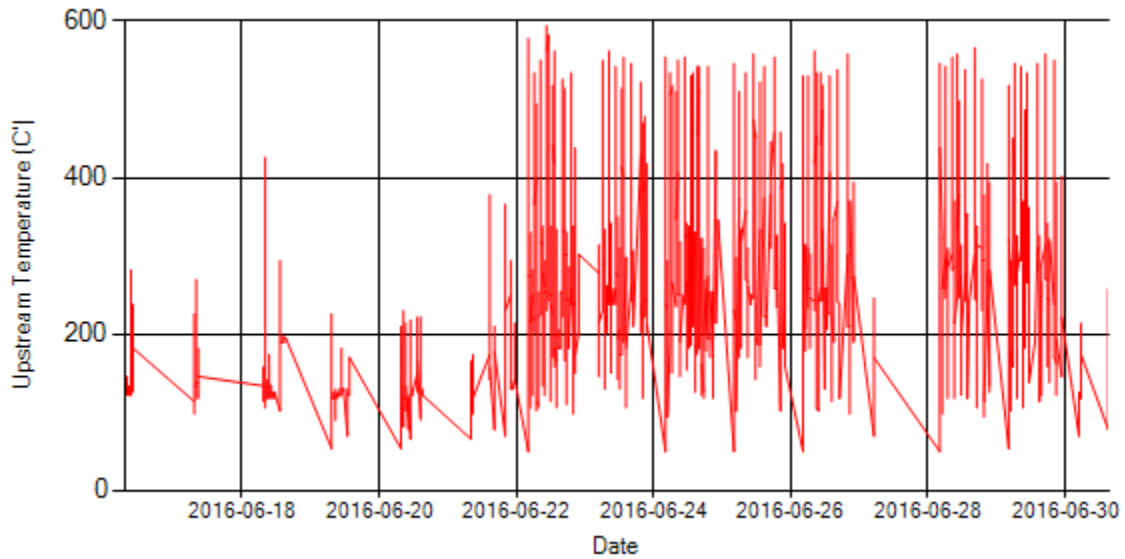


Figure 6- Temperature distribution over the period

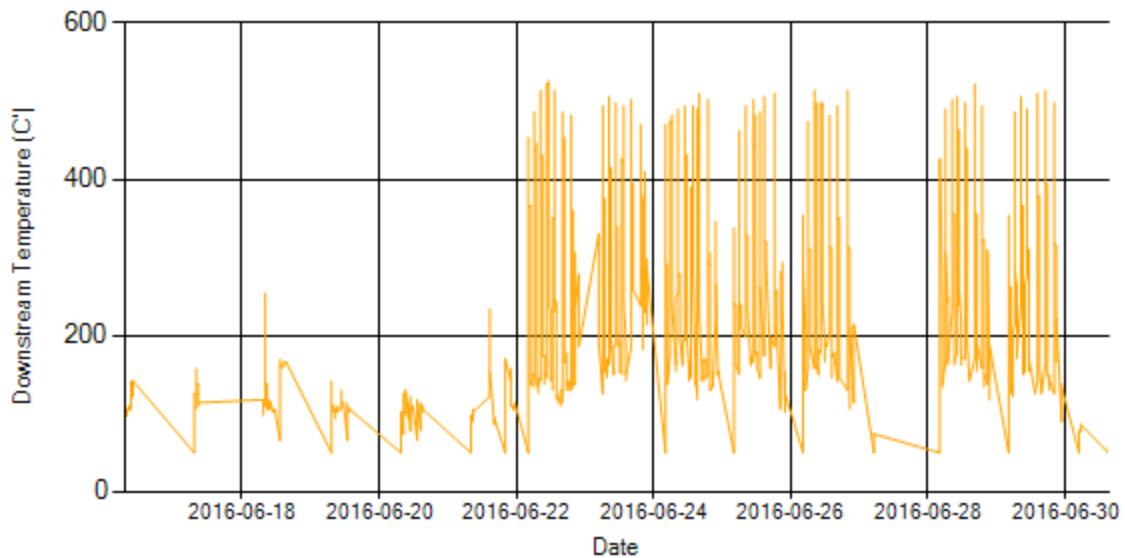


Figure 7- Temperature distribution over the period

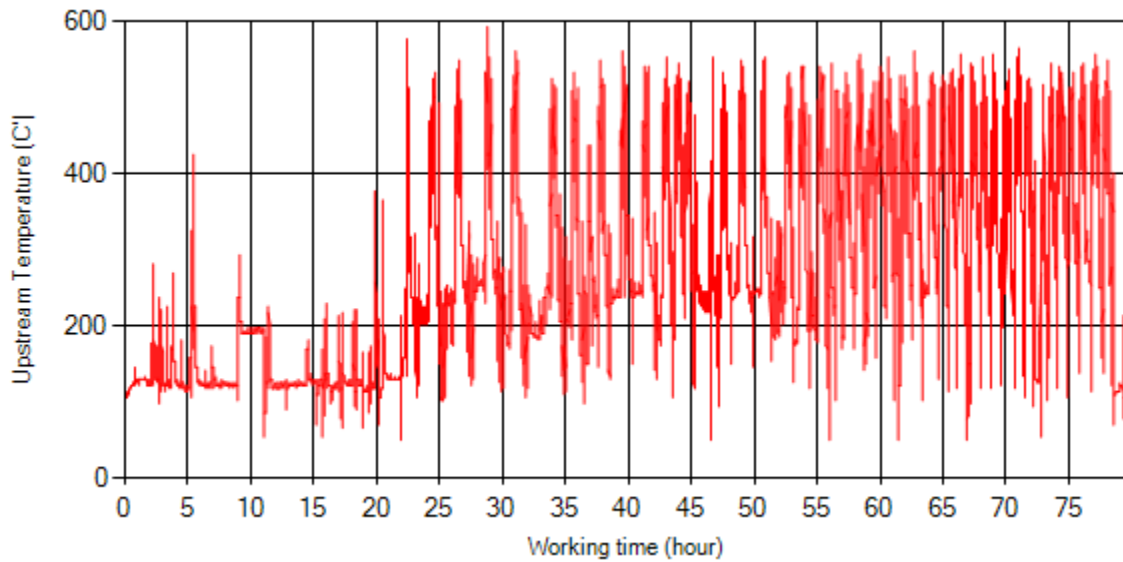


Figure 8- Temperature vs. working hours

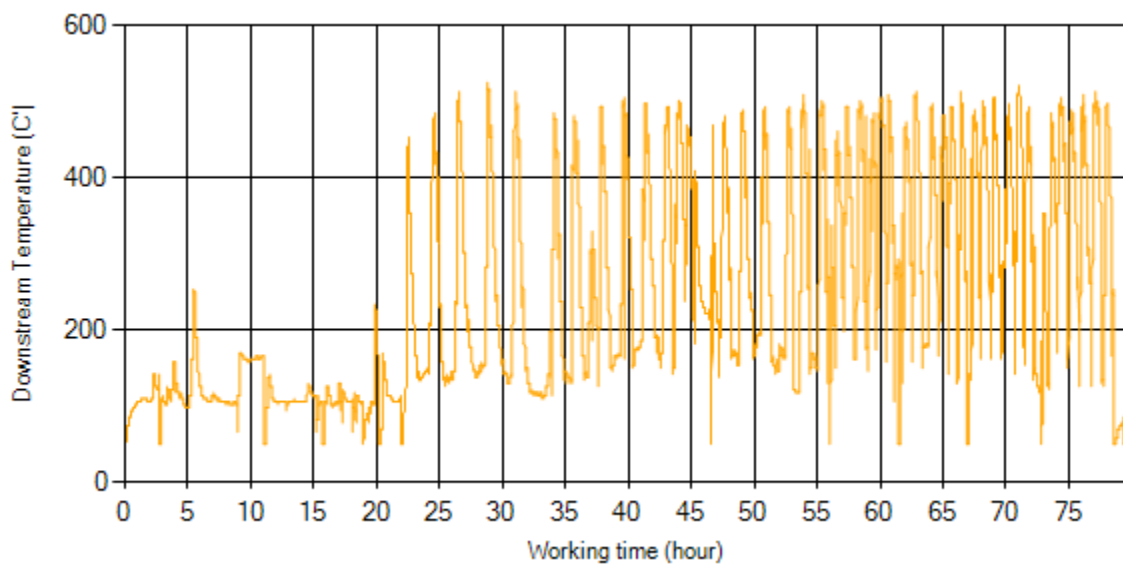


Figure 9- Temperature vs. working hours

Engine Speed Diagrams

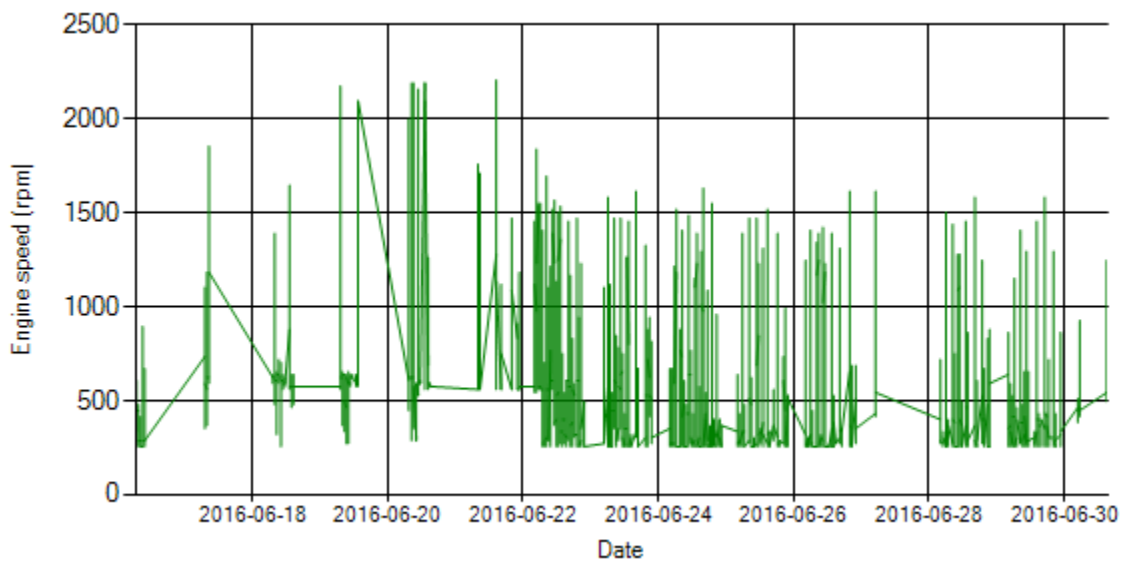


Figure 10- Engine speed distribution over the period

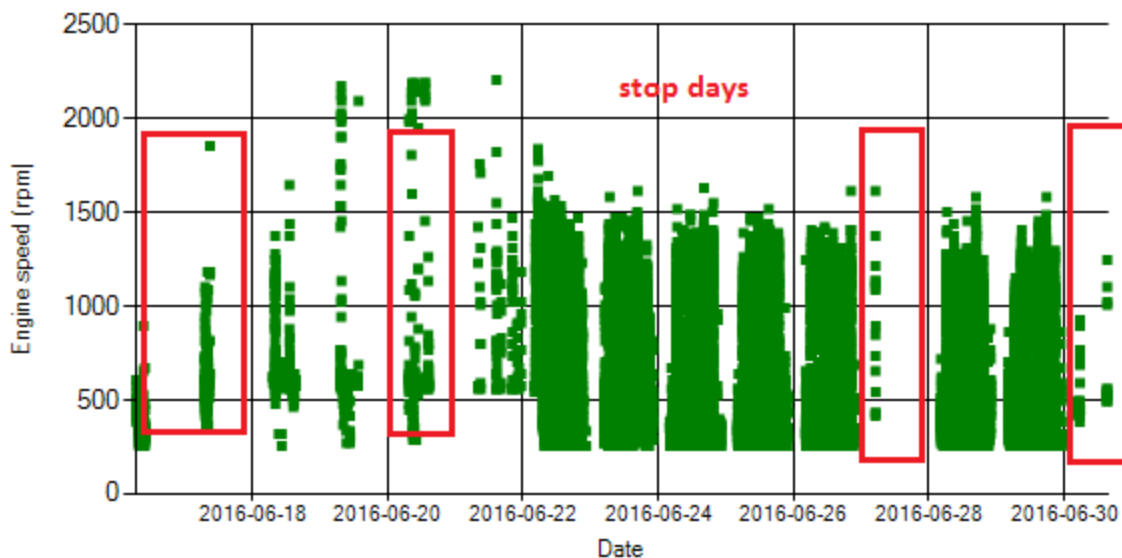


Figure 11- Engine speed diagram for calculating CPK's working days

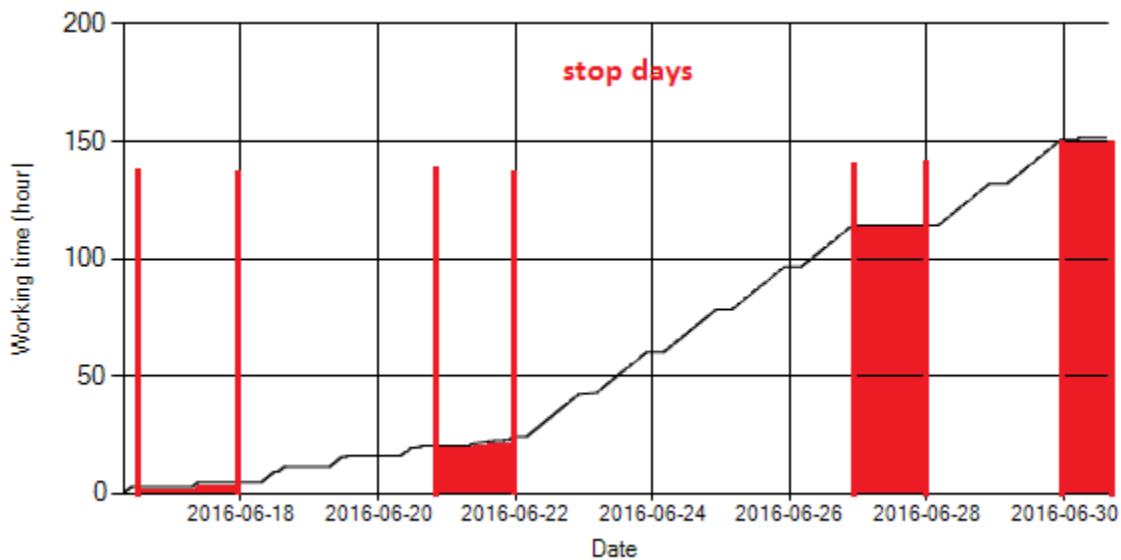


Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data. As depicted in Figure 12 system was stationary for 5 days.

Pressure-Engine Speed diagrams

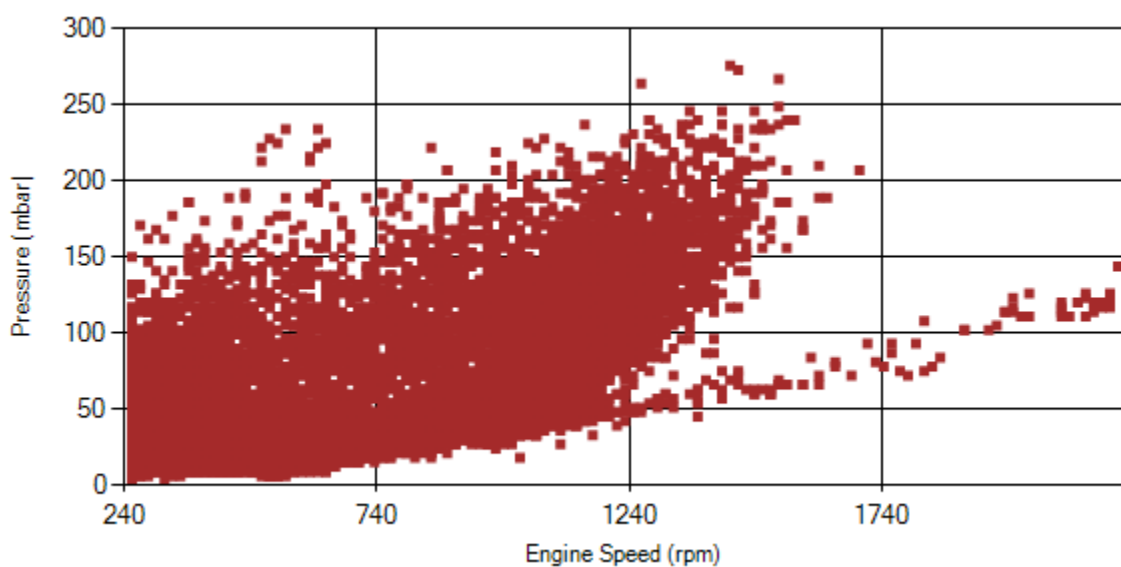


Figure 13- Pressure against engine speed

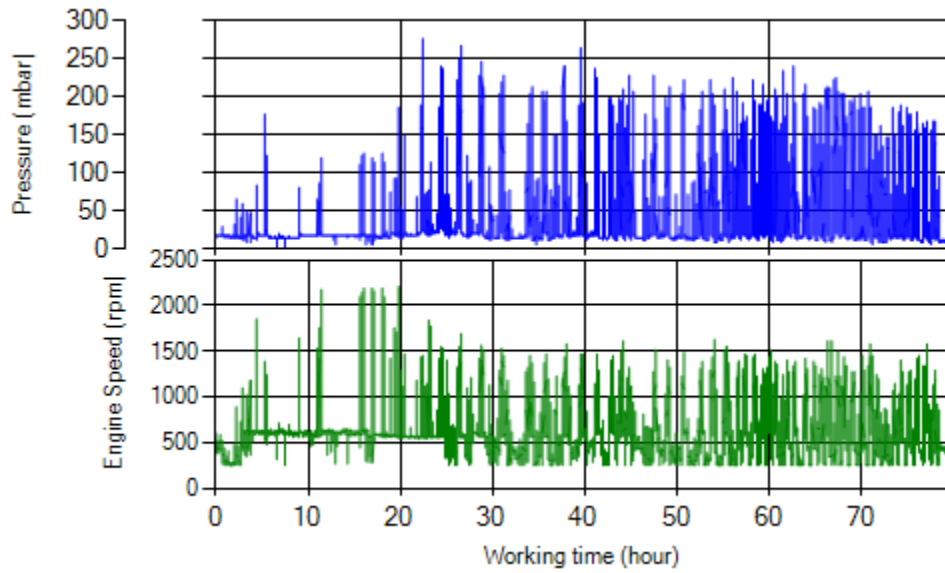


Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

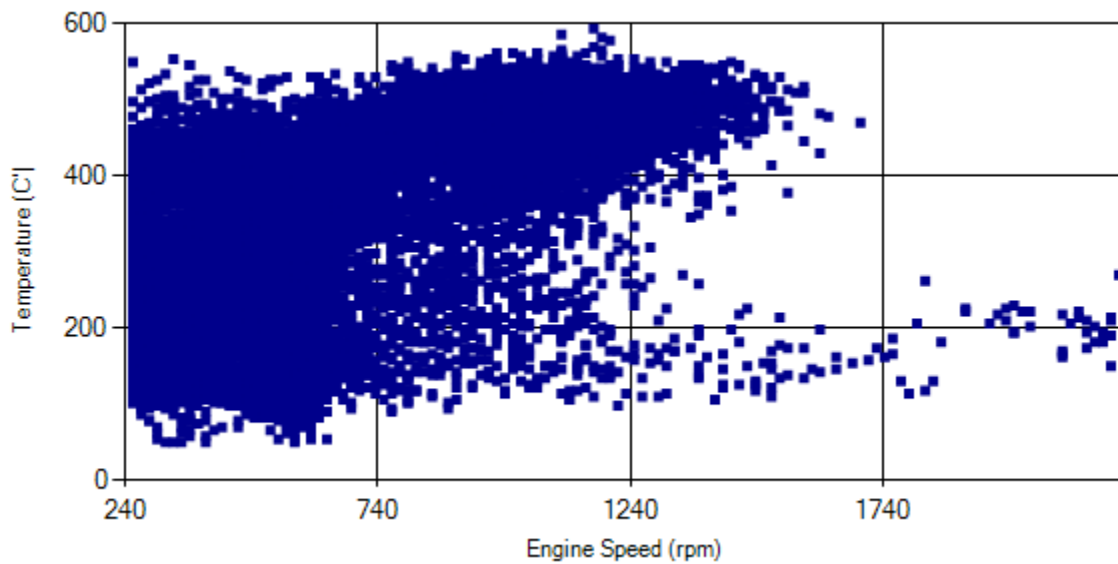


Figure 15- Temperature against engine speed

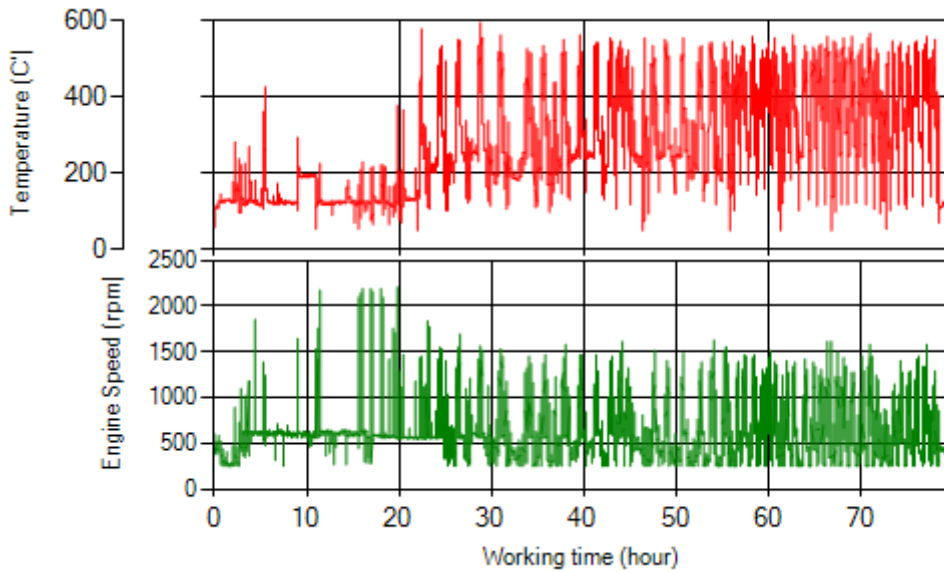


Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in Figure 1, 0.58% of working time, pressure was above 200 mbar and 3.71% was above 150 mbar.
- Figure 2 displays flow temperature before the DPF. It can be obviously observed that 21.6% of total working time temperature is above 400 °C and 27.6% above 350°C.

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