

Overall Information

Table1- Overall Information

| | |
|--------------------------|---|
| Vehicle plate number | 78514 |
| CPK data logger number | LN: 001496, DN: 1914, Sim +989218355923 |
| 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 | HJS_01 (Passive system with FBC) |
| Installation date | 10/Sep/2014 |
| Report period | 01/Mar/2016 – 15/Mar/2016 (fifteen days) |
| K value - DPF upstream | 1.8 [1/m] |
| K value – DPF downstream | 0.02 [1/m] |

Table 2- DPF Maintenance History

| | |
|-------------------------|---|
| Filter maintenance date | DPF core was cleaned on Jun 13 th . |
| 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) | 79070 km |
| Bus mileage over the period | 450 km |
| Working days over the period | 10 days |
| Stop days | 5 days |
| Data logger working days | 4 days |
| Working hours over the period | - |
| Average working hours per day (including stop days) | - |
| Bus average speed | - km/hr |
| idle speed time to all working time ration | 62.86 % |
| Total Bus fuel consumption over the period | 290 lit |
| Fuel consumption per hour | - lit/hr |
| Average fuel consumption | 0.65 lit/km |
| Total Bus additive consumption over the period | 0.14 lit |
| Average additive consumption | 309 cc/km |
| Additive consumption to fuel ration | 480 cc/1000lit |

Notice: Due to data logger problem, working hours and some related information was missed.

Temperature, Pressure and Engine Speed Overview

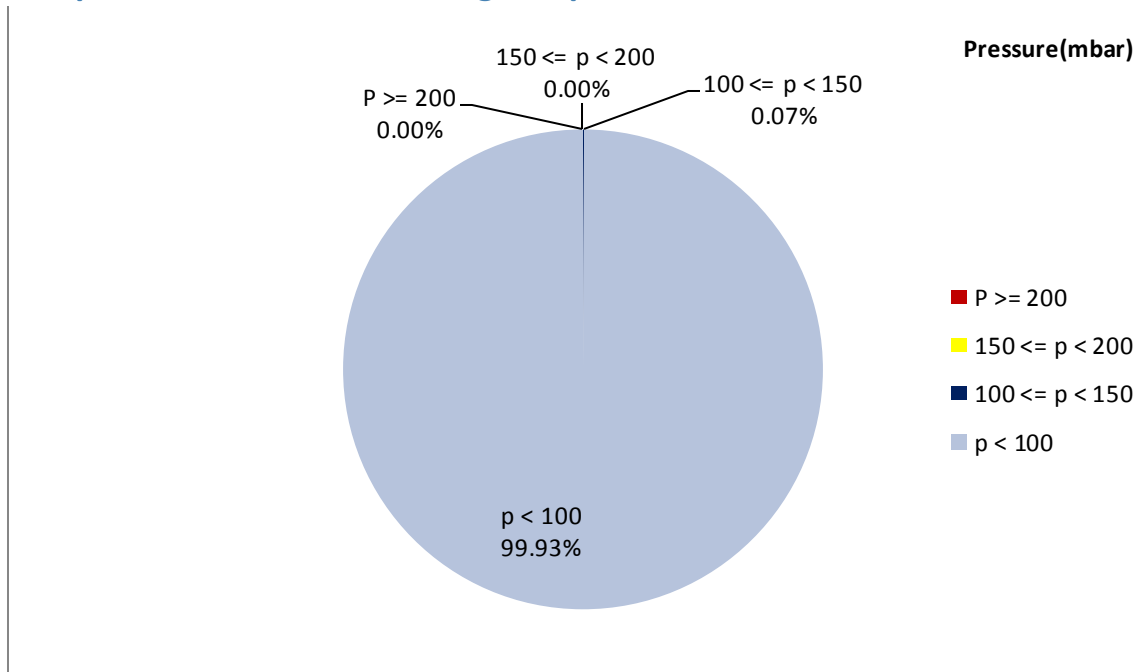


Figure 1- Pressure distribution over the working hours

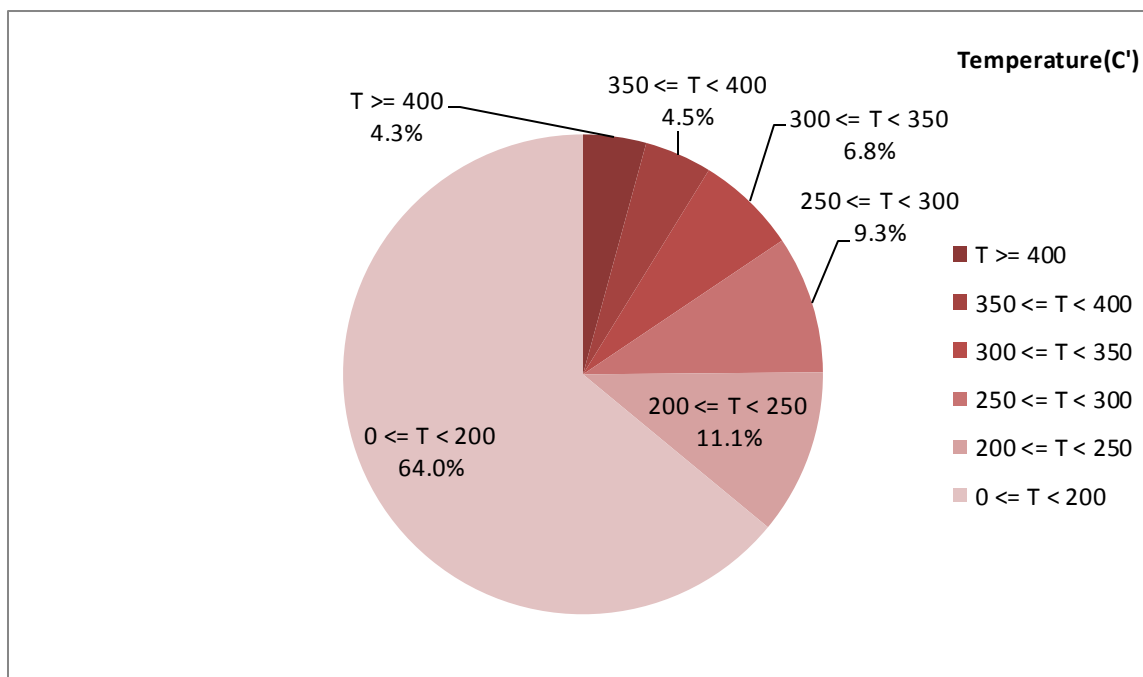


Figure 2-Temperature distribution over the working hours

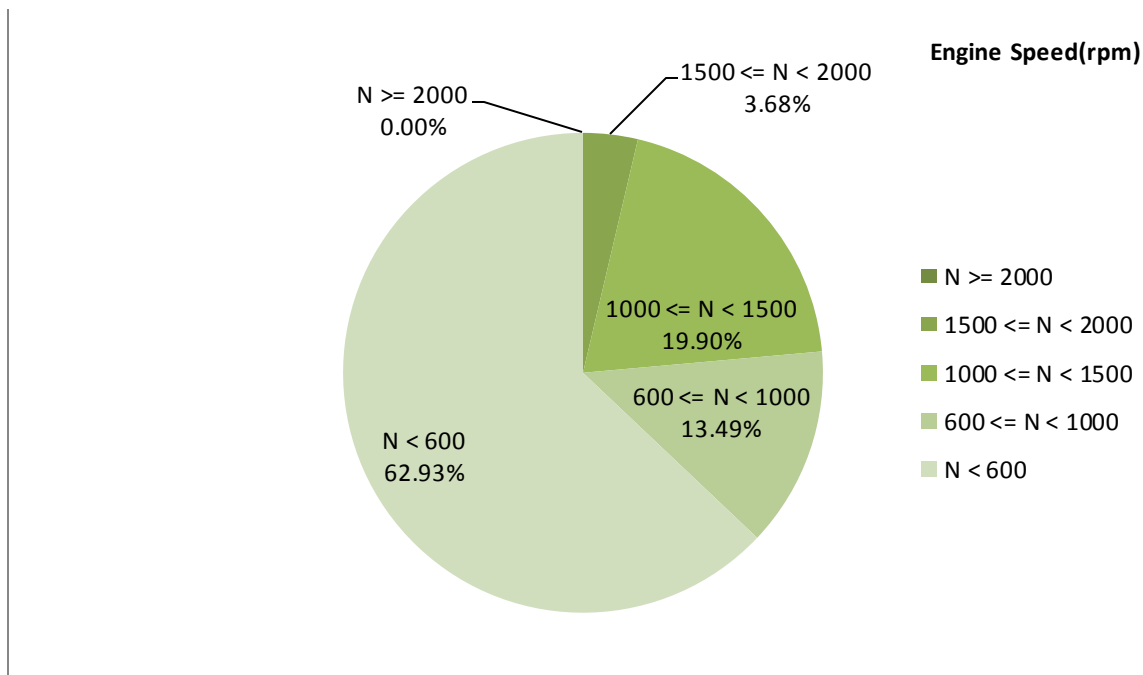


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 196.27 | 7.38 | 748 |

Table 5- Mean values without idling

| Mean temperature (C) | Mean pressure(mbar) | Mean engine speed(rpm) |
|----------------------|---------------------|------------------------|
| 272 | 18.11 | 1090 |

Table 6- Max-min values

| Max-min temperature(C) | Max-min pressure(mbar) | Max-min engine speed(rpm) |
|------------------------|------------------------|---------------------------|
| 530-50 | 108-0 | 1872-304 |

Detailed Pressure Analysis

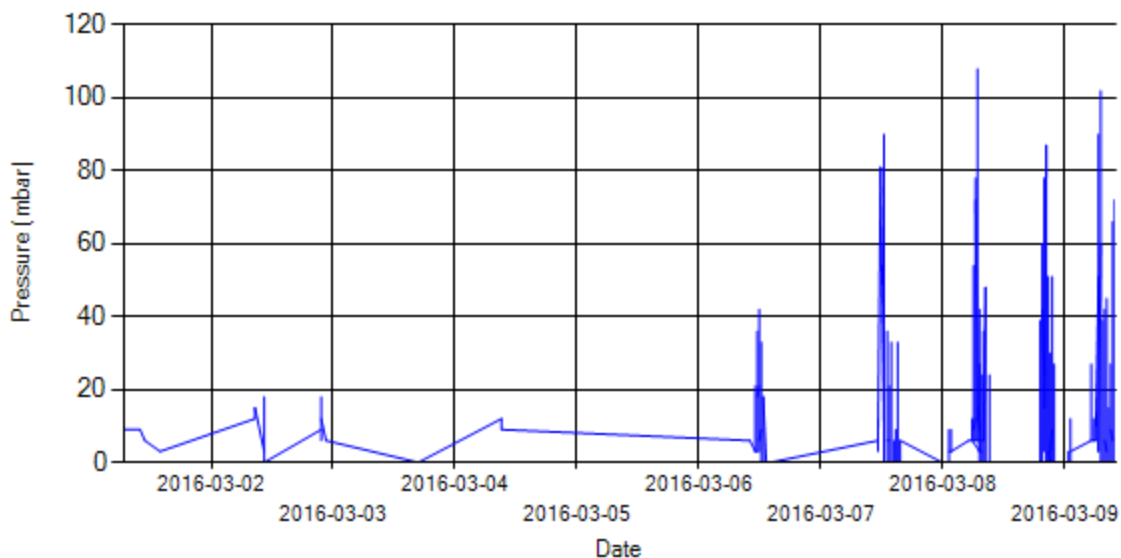


Figure 4- Pressure distribution over the period

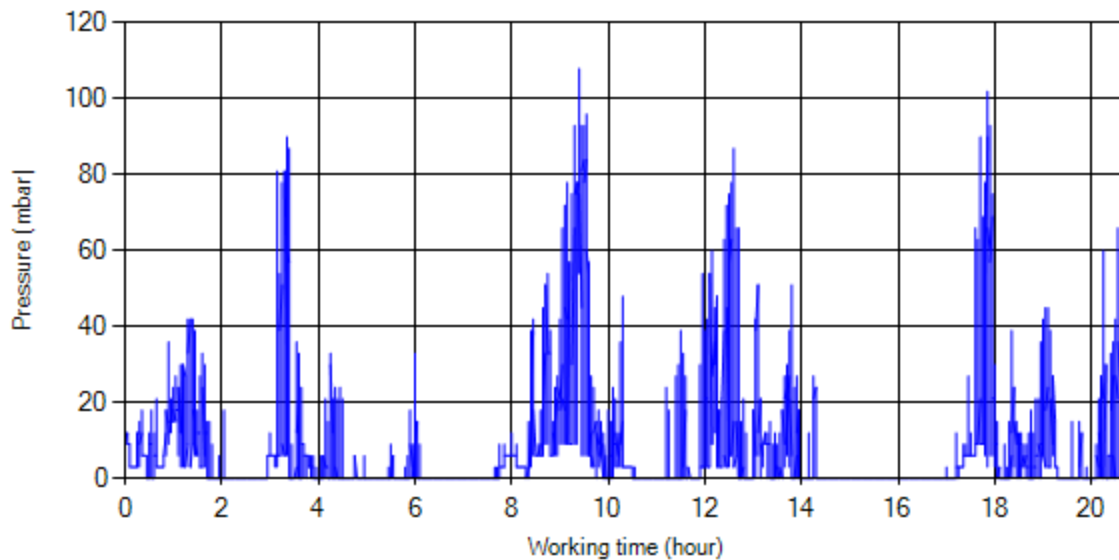


Figure 5- Pressure vs. working hours

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

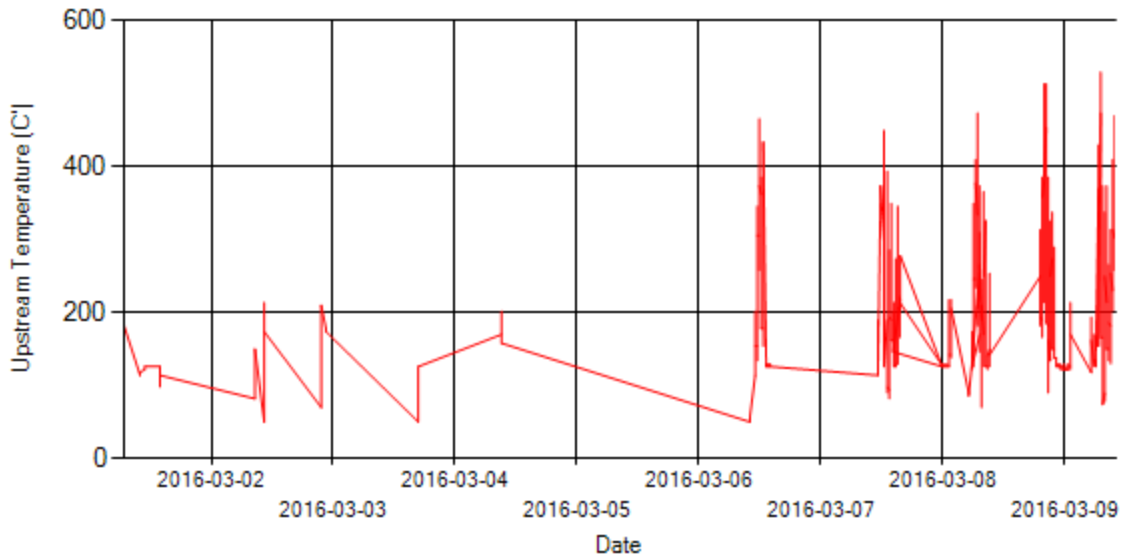


Figure 6- Temperature distribution over the period

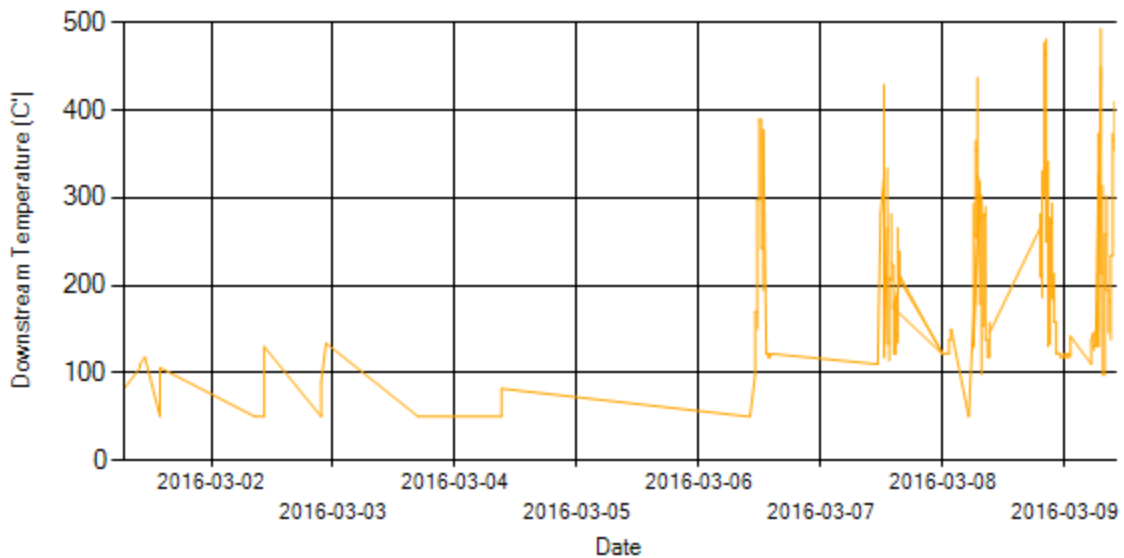


Figure 7- Temperature distribution over the period

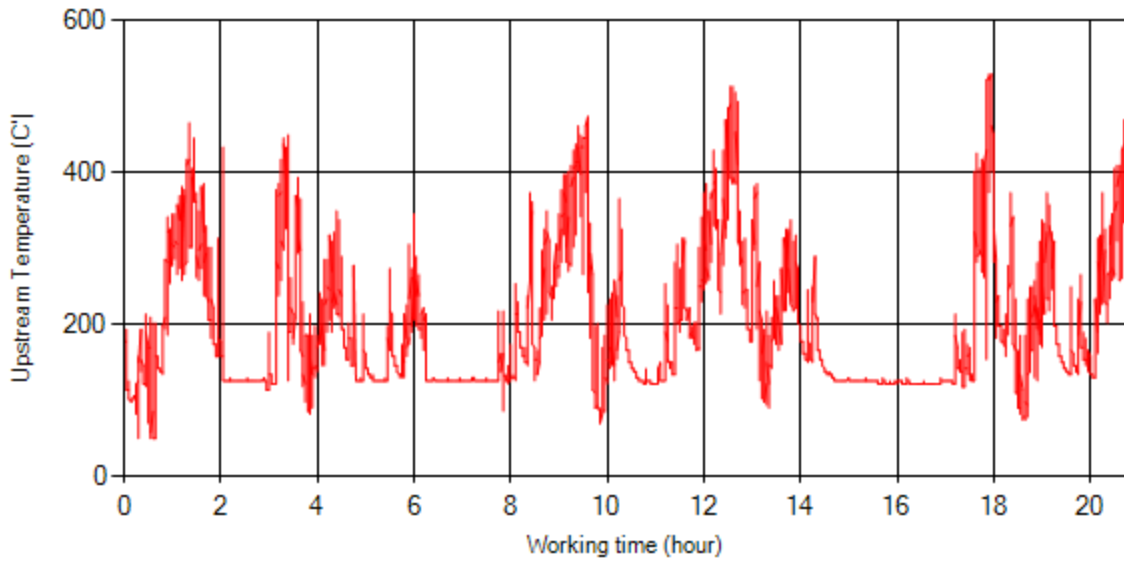


Figure 8- Temperature vs. working hours

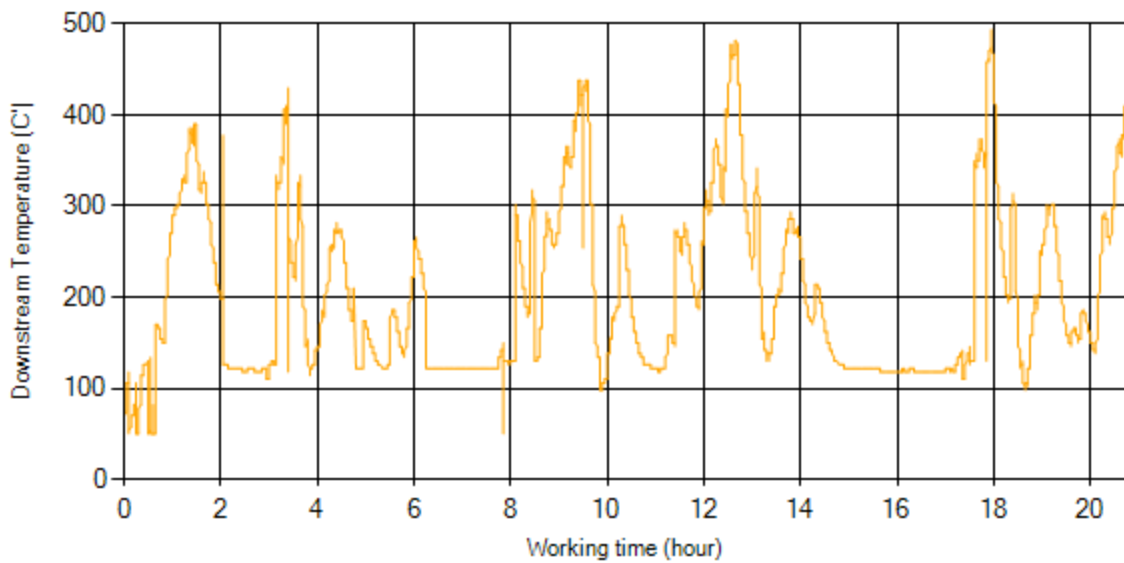


Figure 9- Temperature vs. working hours

Engine Speed Diagrams

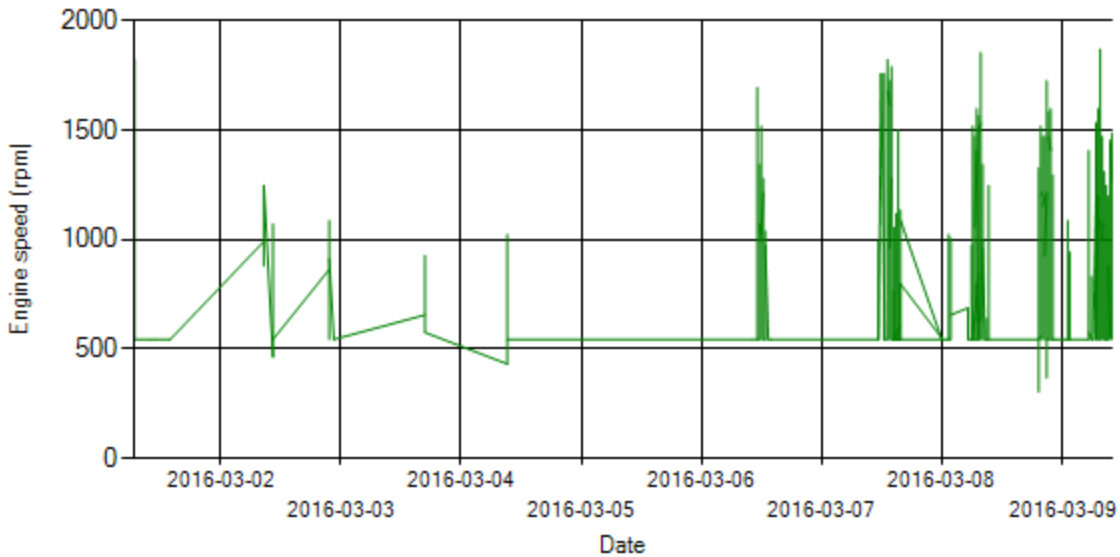


Figure 10- Engine speed distribution over the period

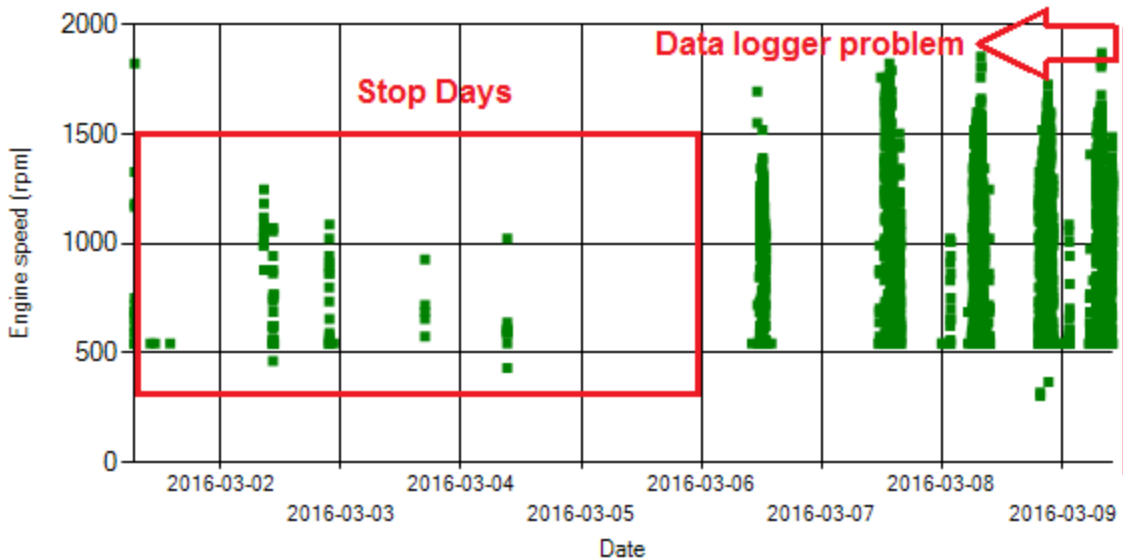


Figure 11- Engine speed diagram for calculating CPK's working days

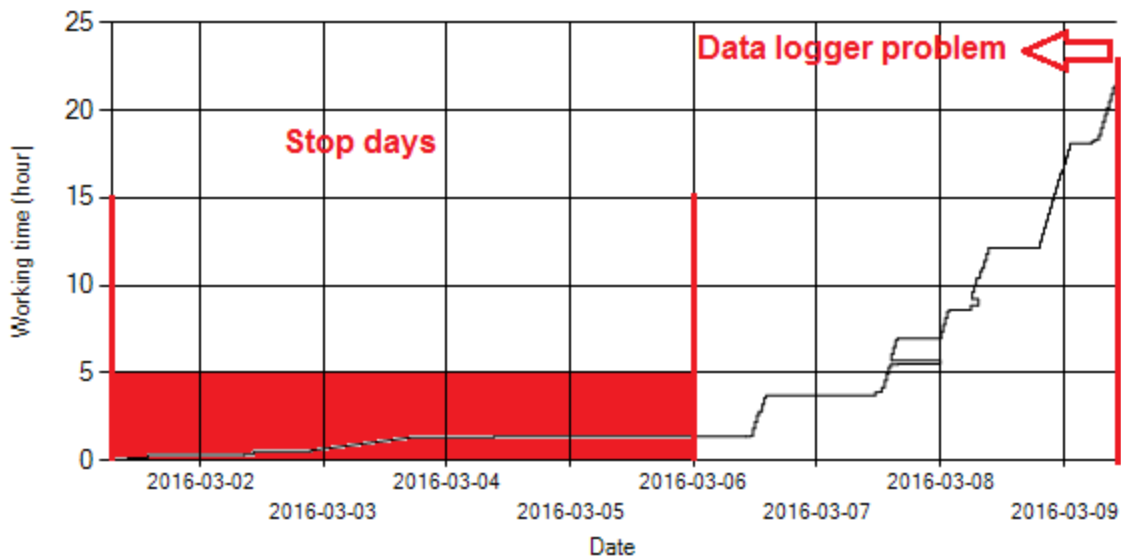


Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data.

Pressure-Engine Speed diagrams

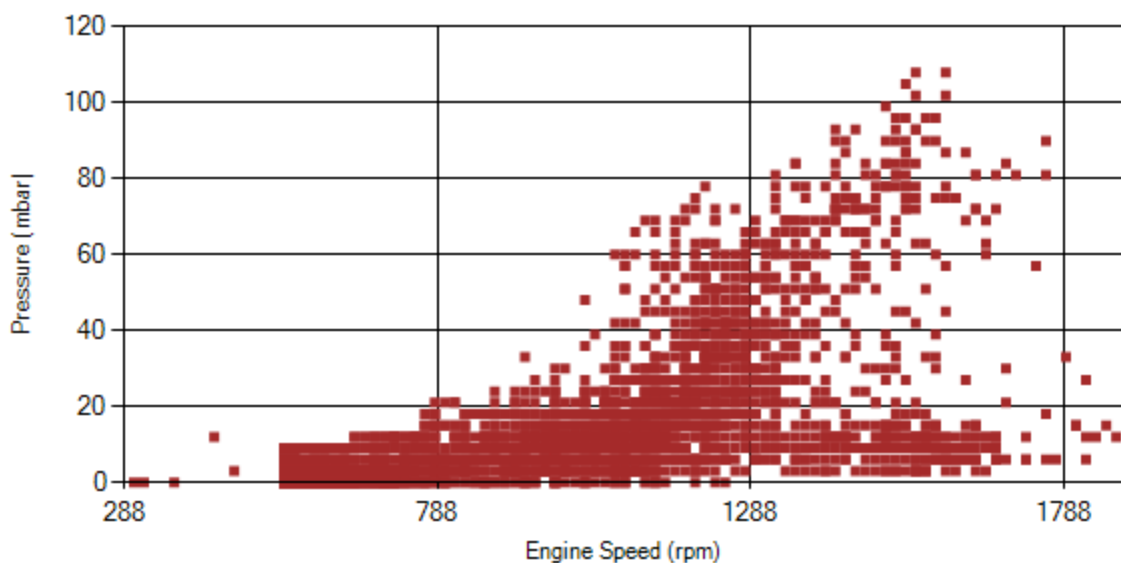


Figure 13- Pressure against engine speed

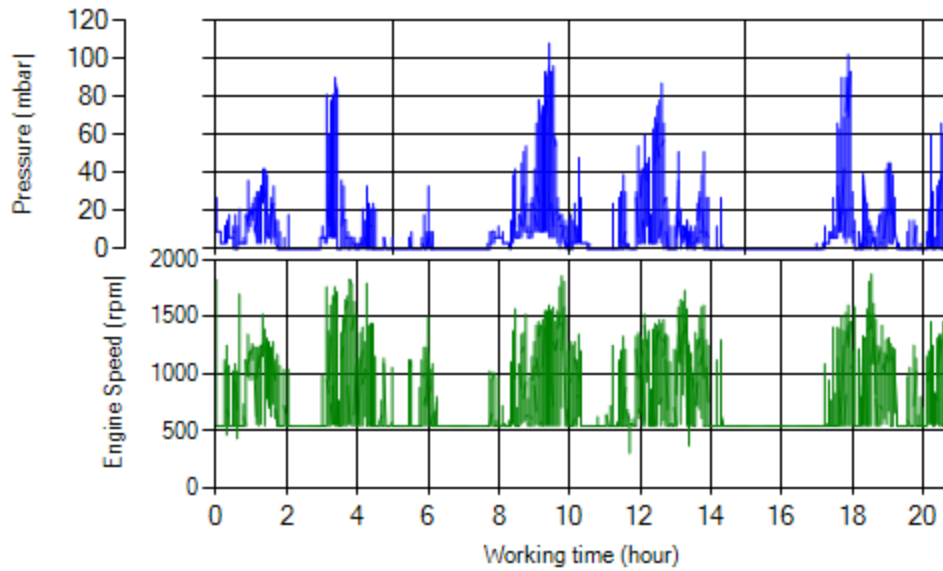


Figure 14- P, N distribution vs. working hours

Temperature-Engine Speed diagrams

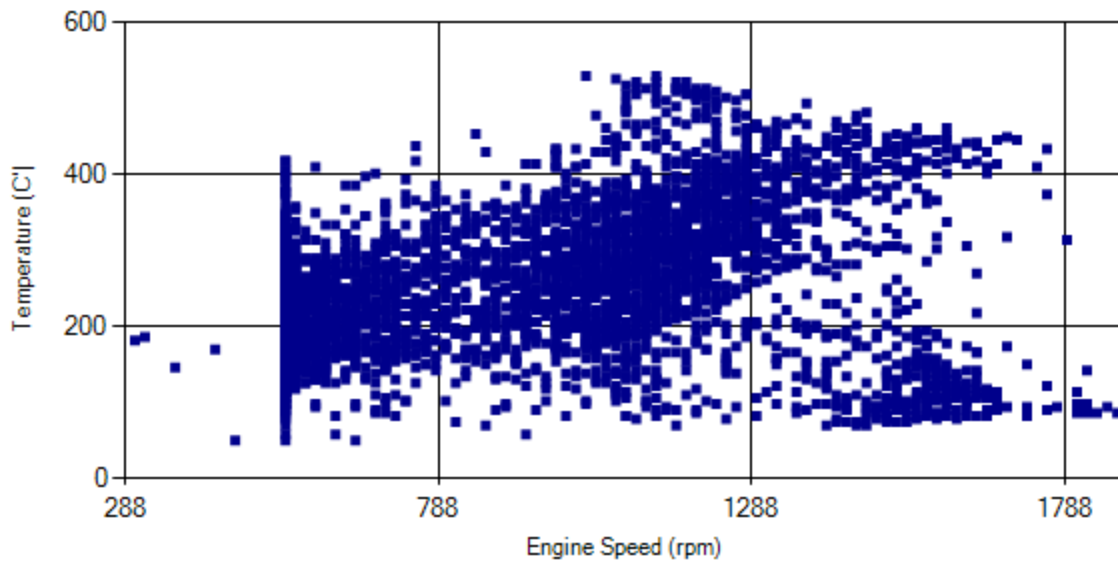


Figure 15- Temperature against engine speed

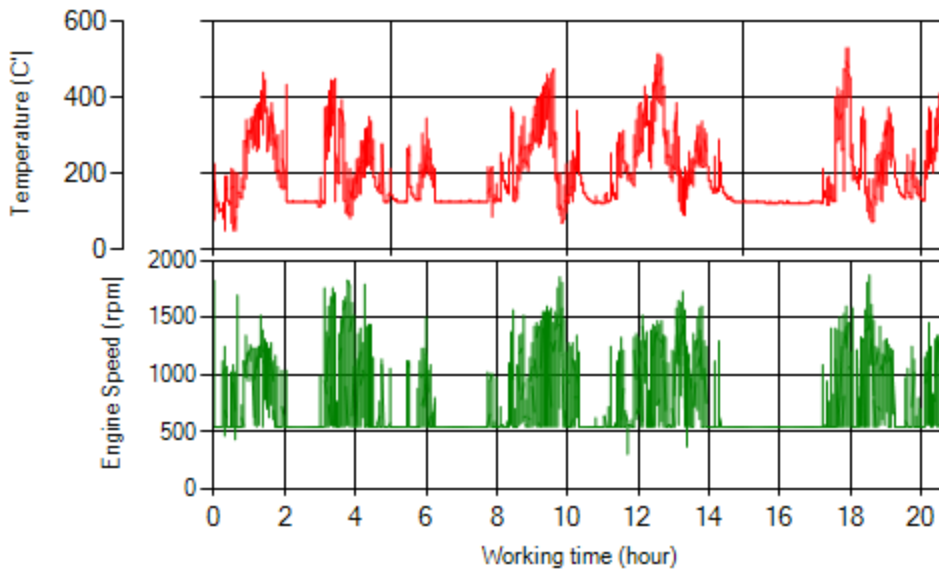


Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

Bus was almost stationary and only worked 20 hours which 62% working time was idle operation. Besides data logger got problem from March 10th until end of the March.

Considering available data, system operation was excellent.

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