

## Overall Information

*Table1- Overall Information*

Vehicle plate number	85423
CPK data logger number	LN: 001505, DN: 2001, Sim Number +989218469621
Bus line	Number 4 (south to north bus line)
Bus Terminals	South Bus Terminal - Park Way Bus Tehran Terminal
Total path distance	22.8 km
DPF producer company	HJS_02 (active system with FBC – electrical heater)
Installation date	19/Feb/2015
Report period	01/Feb/2016- 15/Feb/2016 (fifteen days)
K value - DPF upstream	1.80 [1/m]
K value – DPF downstream	0.02 [1/m]

*Table 2- DPF Maintenance History*

Filter maintenance date	DPF was cleaned on 2016-02-03 for the first time.
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)	58521 km
Bus mileage over the period	1824 km
Working days over the period	15 days
Stop days	0
Data logger working days	15 days
Working hours over the period	119 hours 39 minutes
Average working hours per day (including stop days)	8 hours 33 minutes
Bus average speed	15.2 km/hr
idle speed time to all working time ration	- %
Total Bus fuel consumption over the period	1149 lit
Fuel consumption per hour	9.6 lit/hr
Average fuel consumption	0.63 lit/km
Total Bus additive consumption over the period	0.55 lit
Average additive consumption	302 cc/km
Additive consumption to fuel ration	478 cc/1000lit

Notice: RPM sensor had problem during this period and was fixed on 15<sup>th</sup> Feb.

## Temperature, Pressure and Engine Speed Overview

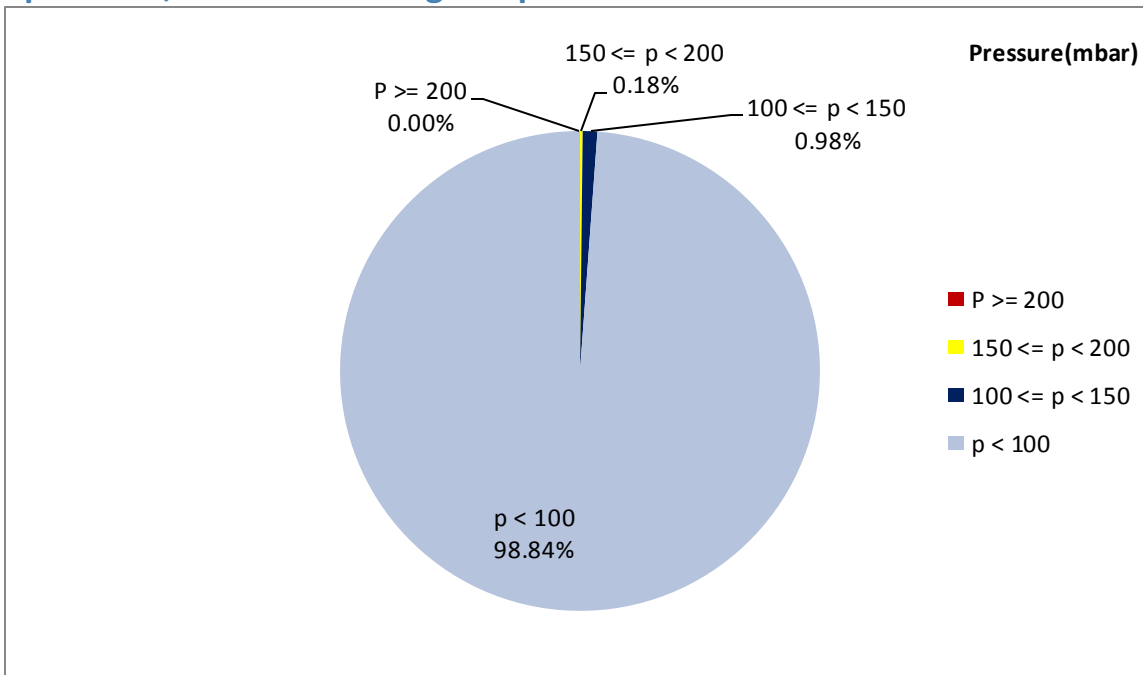


Figure 1- Pressure distribution over the working hours

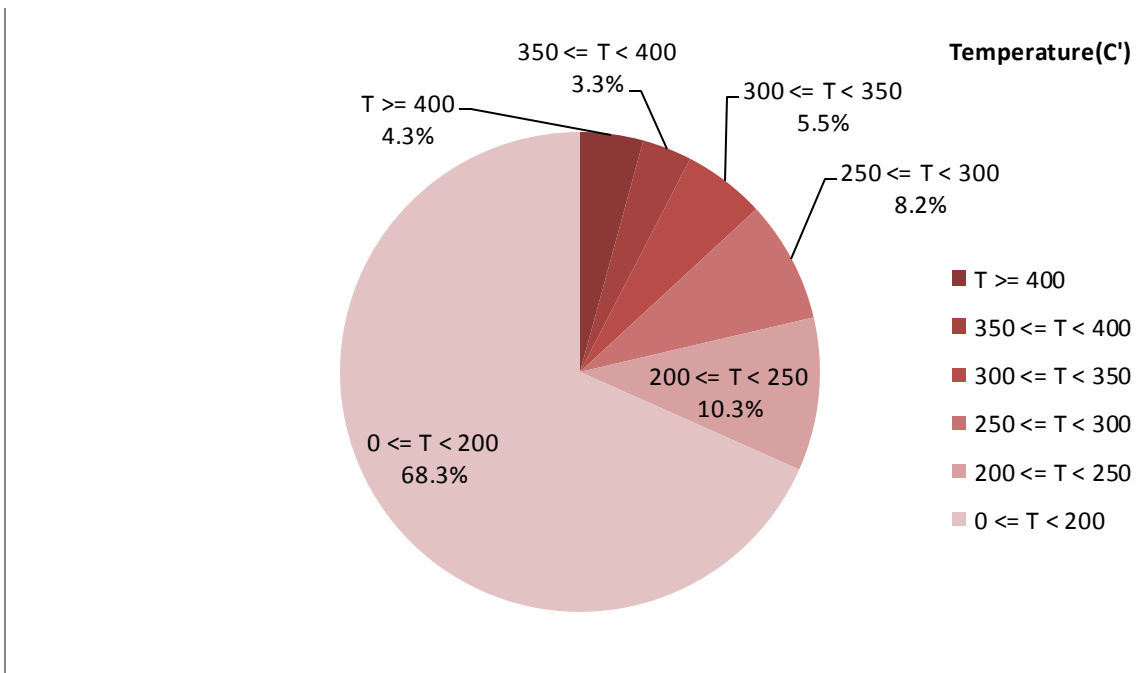


Figure 2-Temperature distribution over the working hours

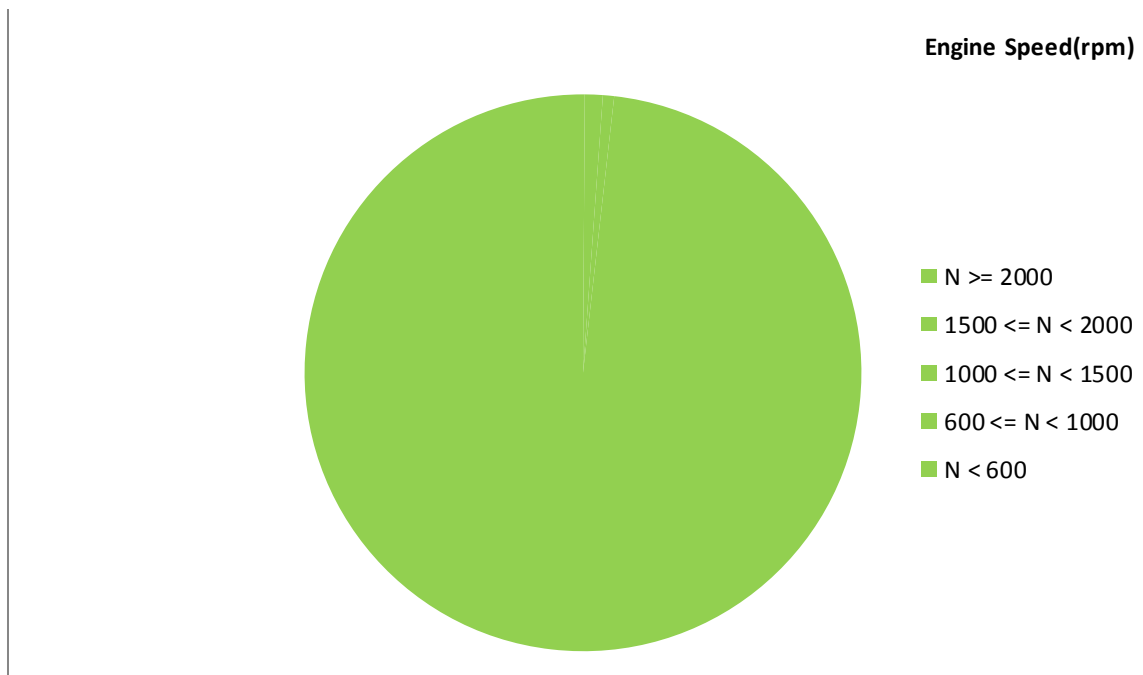


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
175.3	13.49	-

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
-	-	-

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
646-50	192-0	-

Notice: RPM sensor had problem during this period and was fixed on 15<sup>th</sup> Feb. So some parameters couldn't be calculated

## Detailed Pressure Analysis

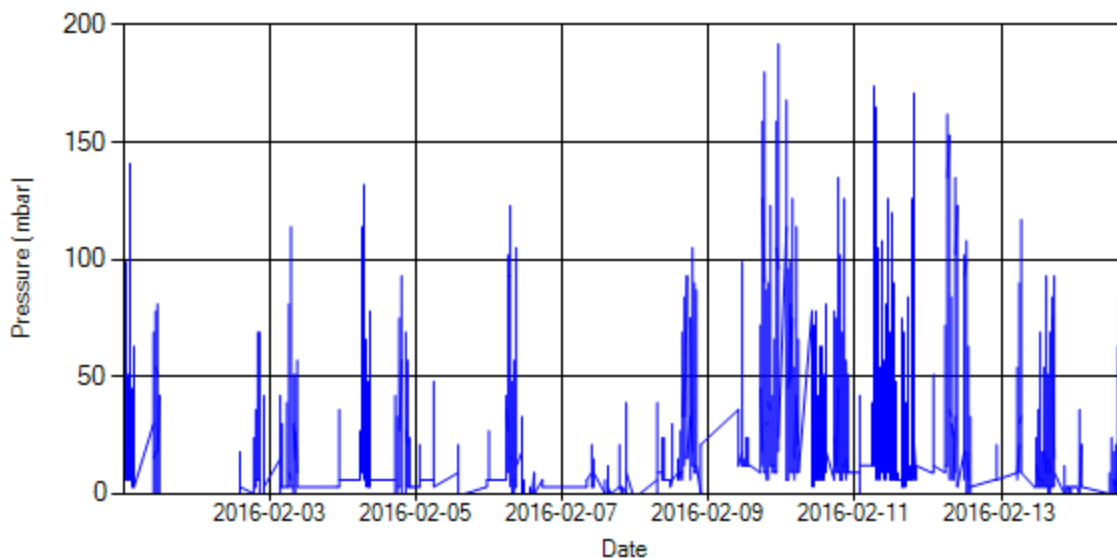


Figure 4- Pressure distribution over the period

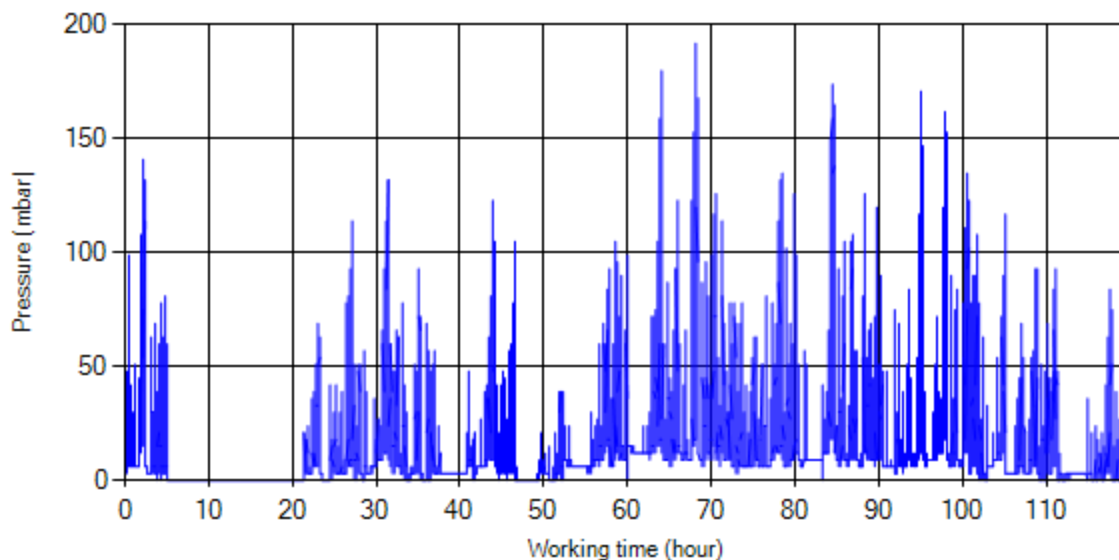


Figure 5- Pressure vs. working hours

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

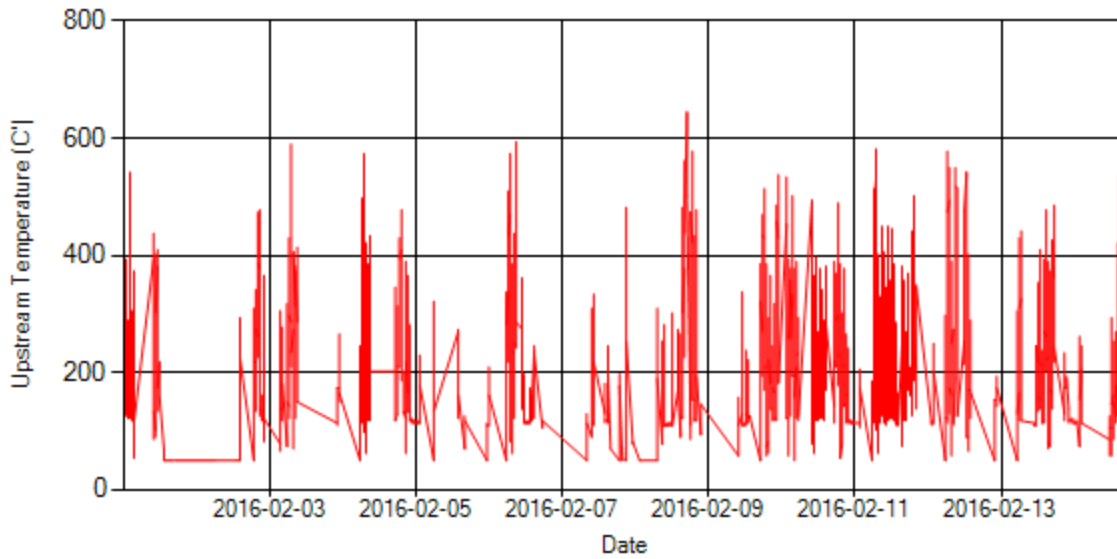


Figure 6- Temperature distribution over the period

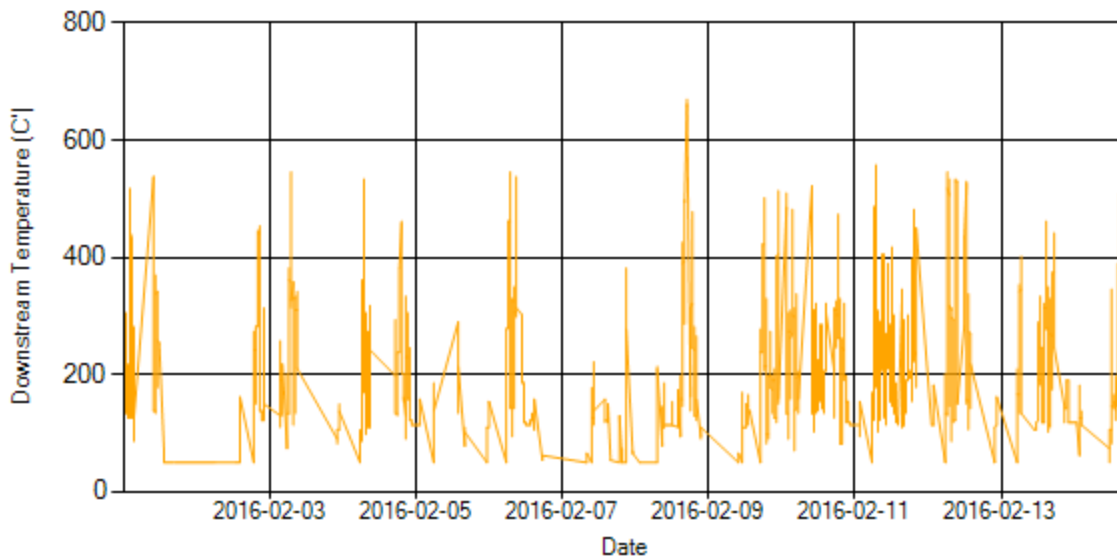
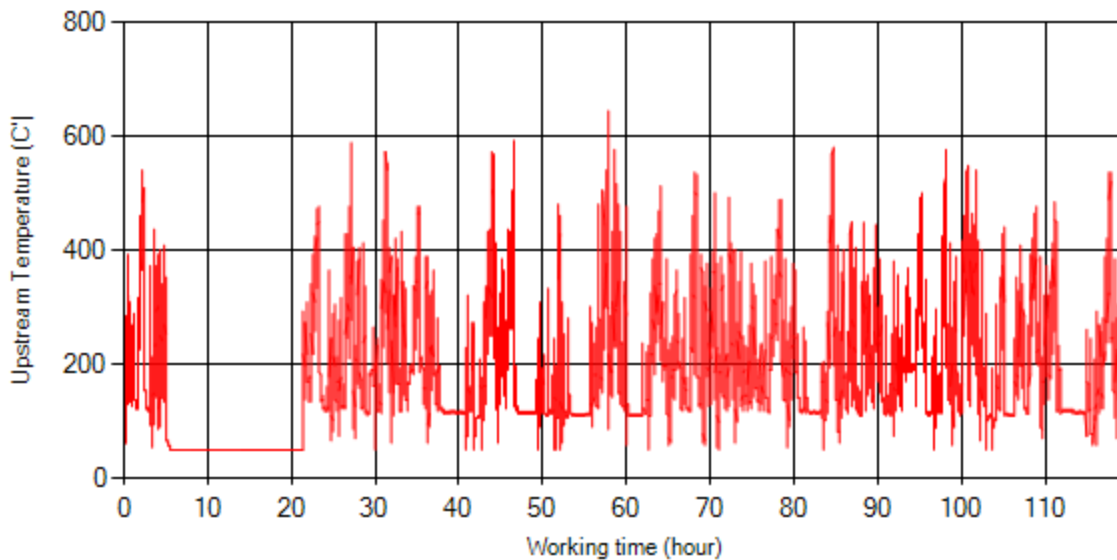
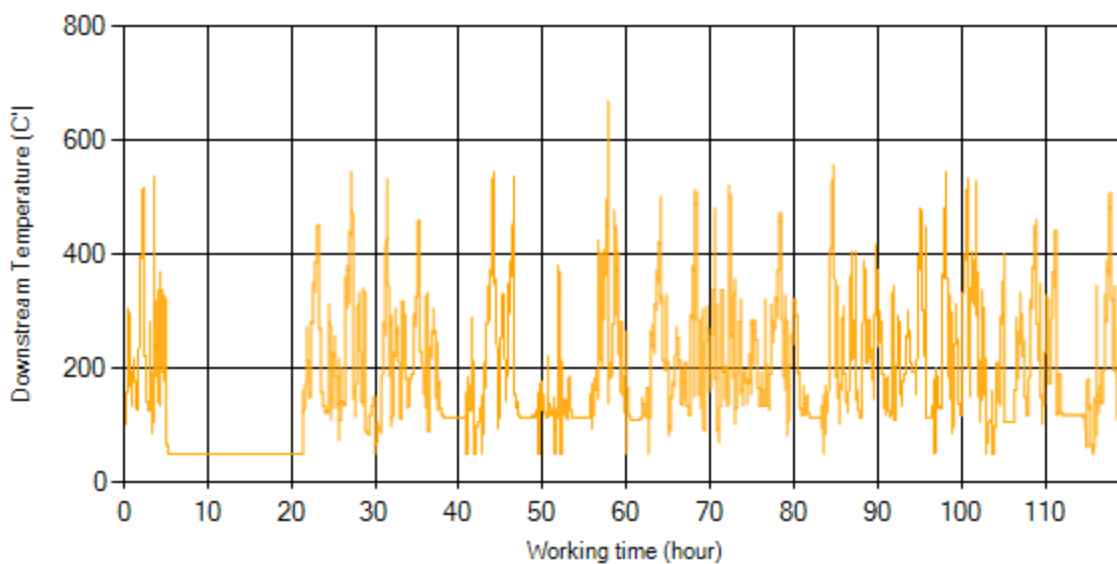


Figure 7- Temperature distribution over the period



*Figure 8- Temperature vs. working hours*



*Figure 9- Temperature vs. working hours*

## Engine Speed Diagrams

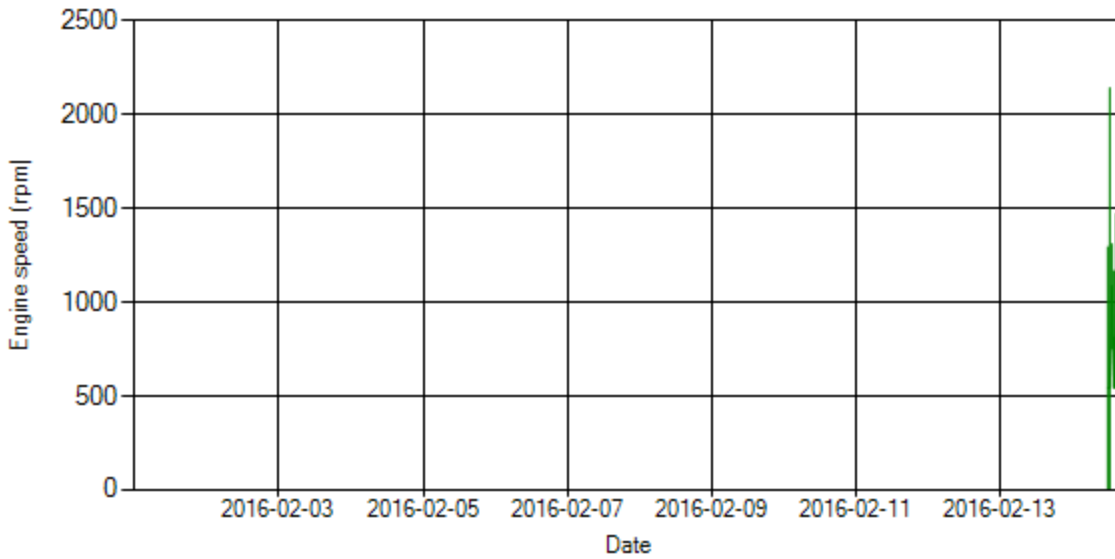


Figure 10- Engine speed distribution over the period

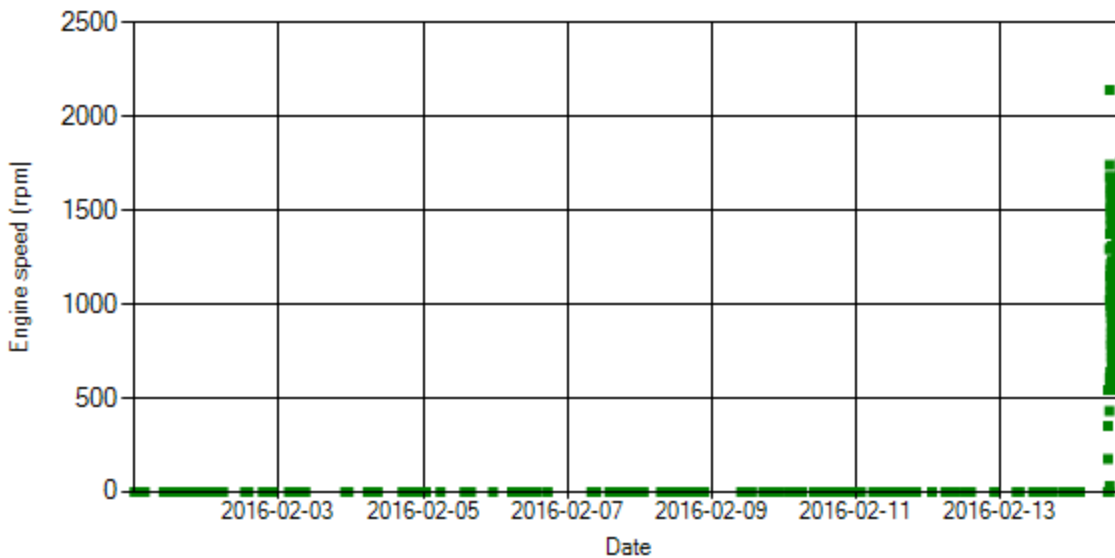


Figure 11- Engine speed diagram for calculating CPK's working days



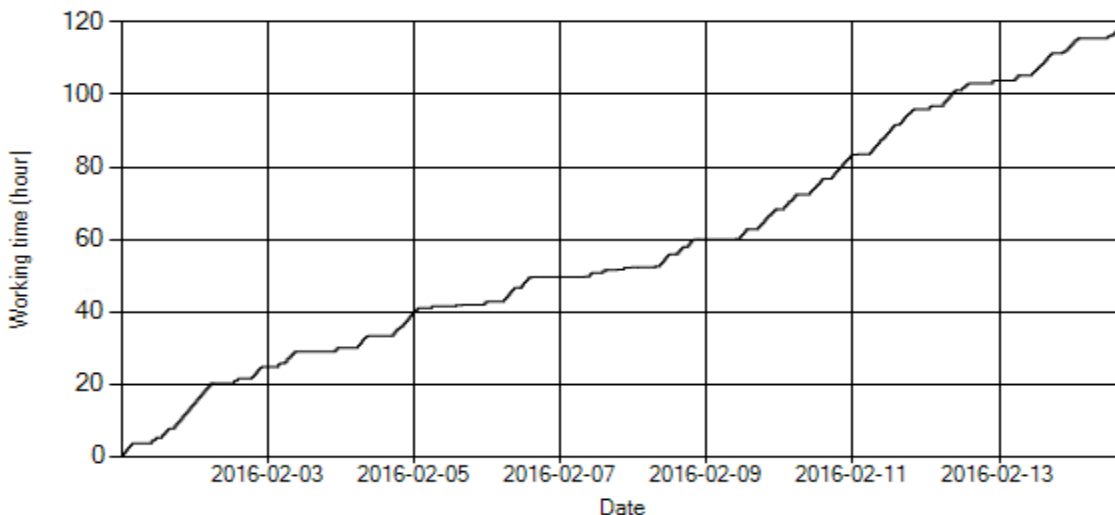


Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data. System was working all days during the period.

### Pressure-Engine Speed diagrams

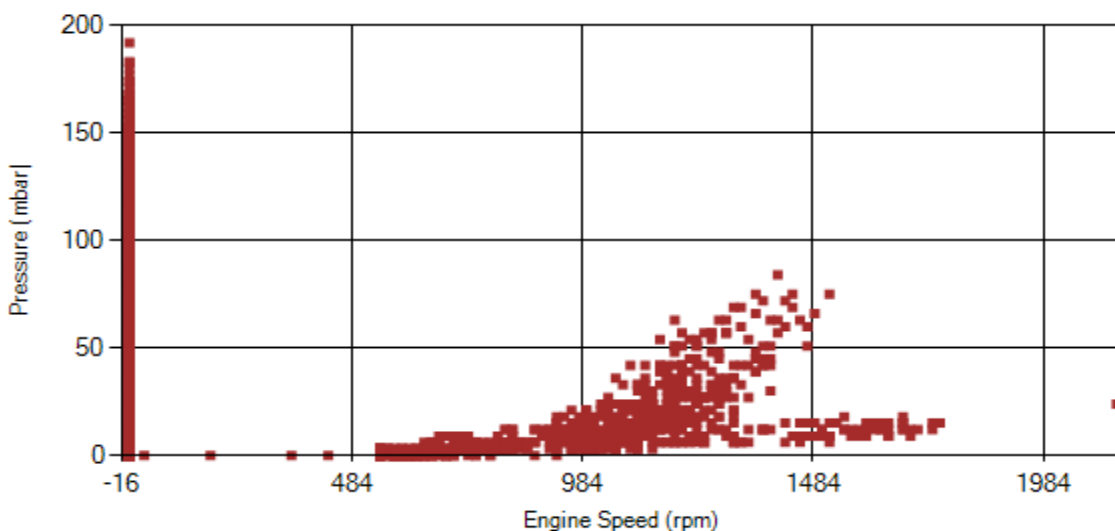


Figure 13- Pressure against engine speed

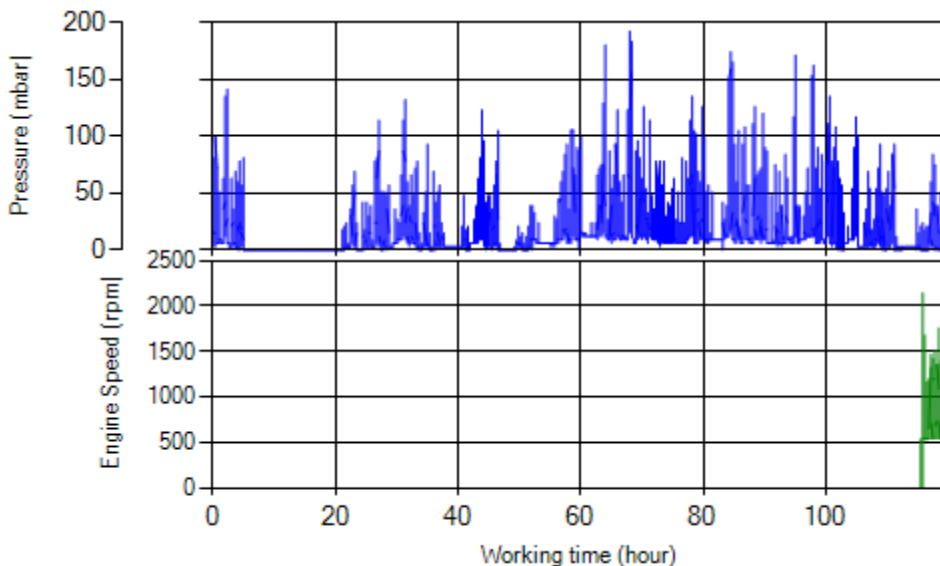


Figure 14- P, N distribution vs. working hours

### Temperature-Engine Speed diagrams

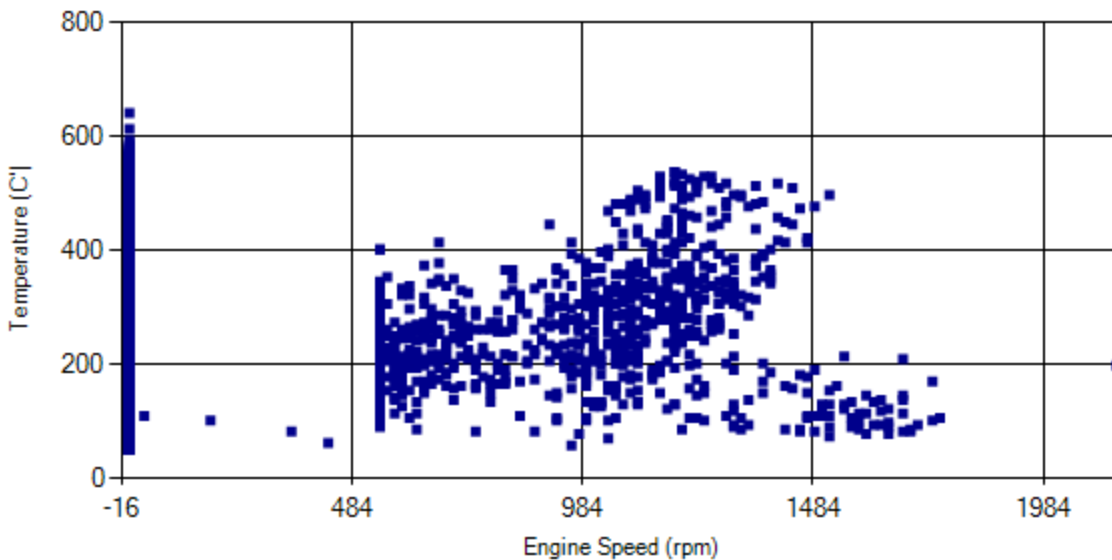


Figure 15- Temperature against engine speed

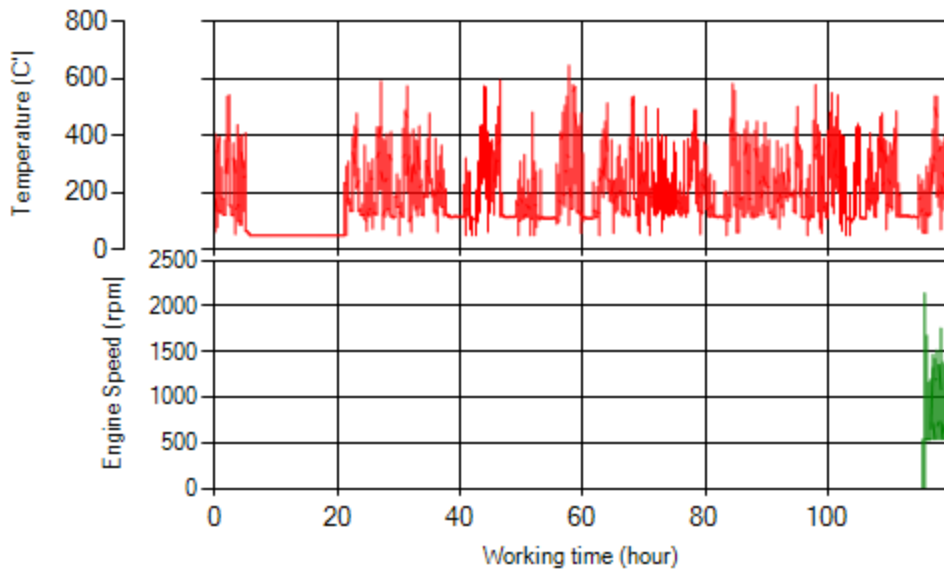


Figure 16- T, N distribution vs. working hours

### Filter Operation Analysis

- As depicted in figure 1, only 0.18% of time pressure was above 150 mbar and pressure above 200 mbar was not observed.
- Figure 2 displays flow temperature distribution for DPF's upstream. It can be obviously observed that 4.3% of total working-time temperature is above 400 °C and 7.6% above 350°C.

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