

## 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/Aug/2016- 15/Aug/2016 (fifteen days)
K value - DPF upstream	1.9 [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 and on 2016-07-10 for the second 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)	92240 km
Bus mileage over the period	2436 km
Working days over the period	13 days
Stop days	2 days
Data logger working days	13 days
Working hours over the period	163 hours 26 minutes
Average working hours per day (including stop days)	10 hours 54 minutes
Bus average speed	14.9 km/hr
idle speed time to all working time ration	56.45 %
Total Bus fuel consumption over the period	1437 lit
Fuel consumption per hour	8.78 lit/hr
Average fuel consumption	0.59 lit/km
Total Bus additive consumption over the period	0.684 lit
Average additive consumption	280.7 cc/km
Additive consumption to fuel ration	476 cc/1000lit

## Temperature, Pressure and Engine Speed Overview

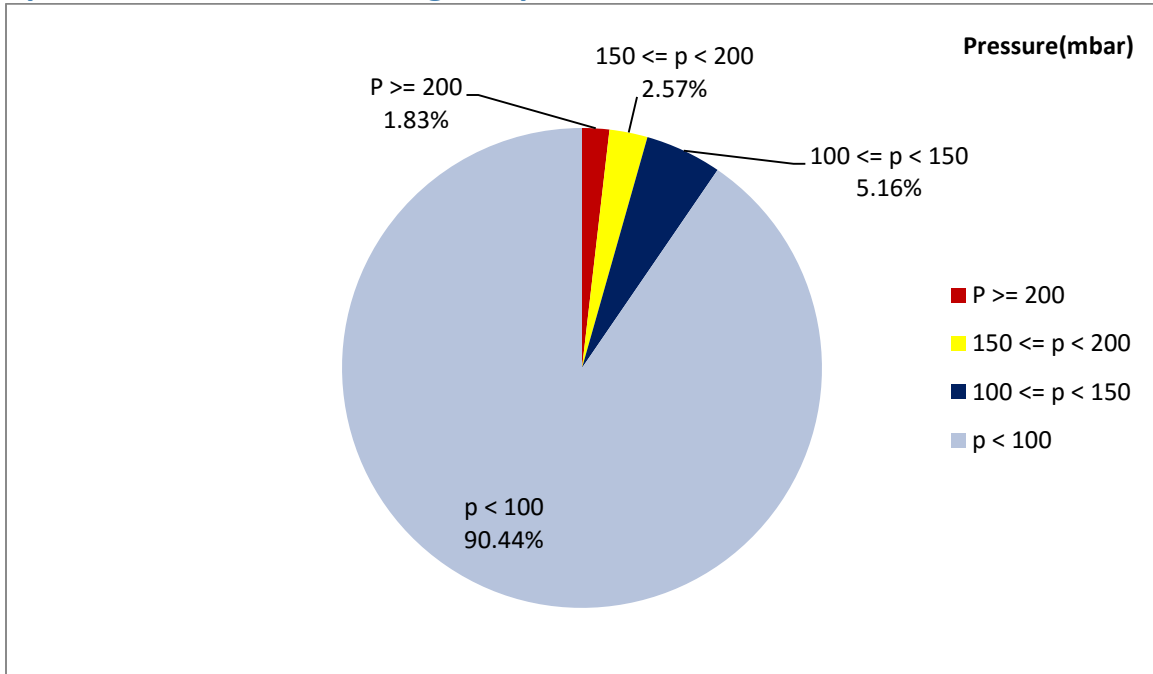


Figure 1- Pressure distribution over the working hours

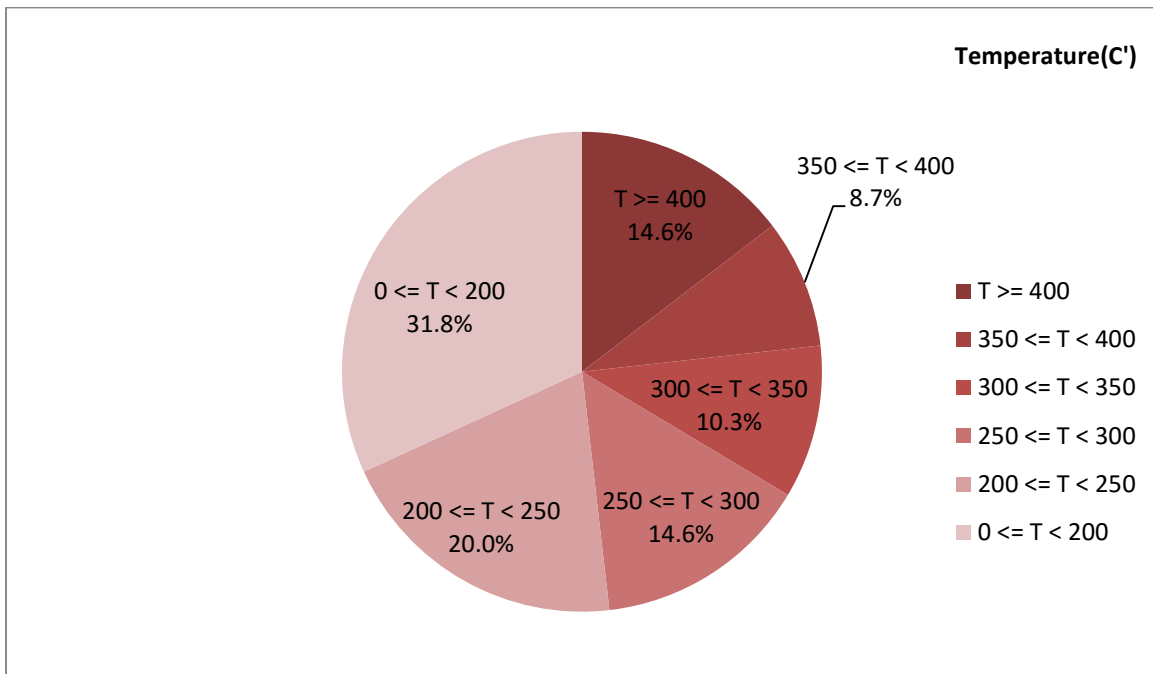


Figure 2-Temperature distribution over the working hours

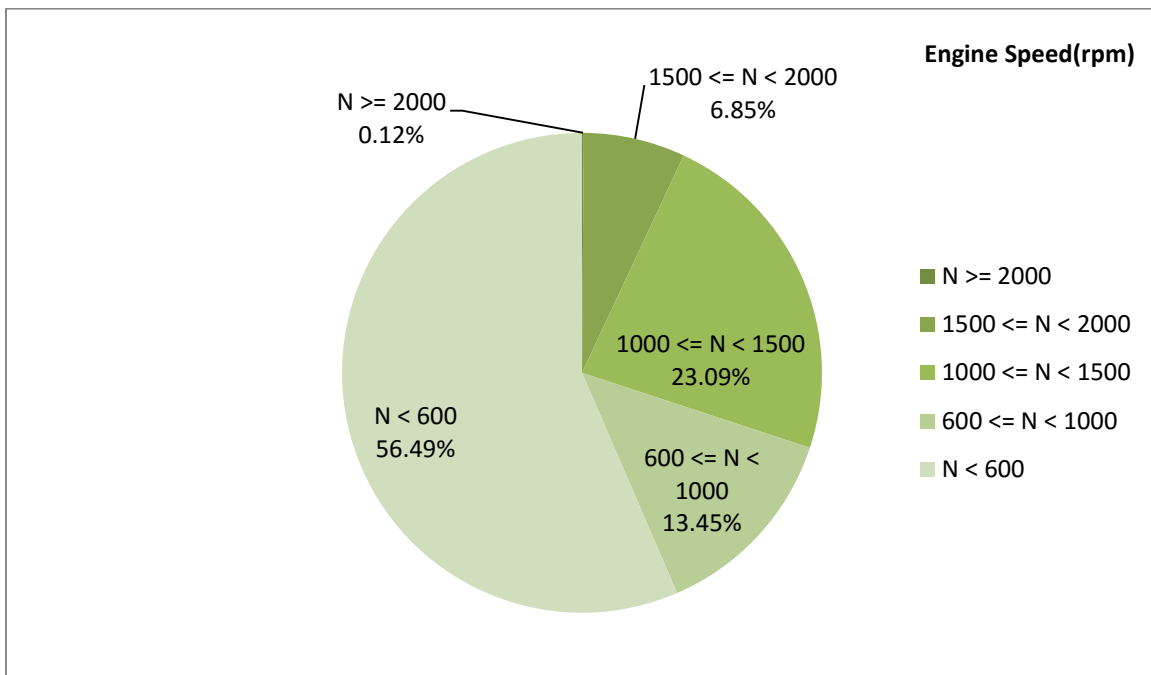


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
266.89	35.28	805

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
341.91	68.88	1161

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
642-54	342-0	2080-256

### Detailed Pressure Analysis

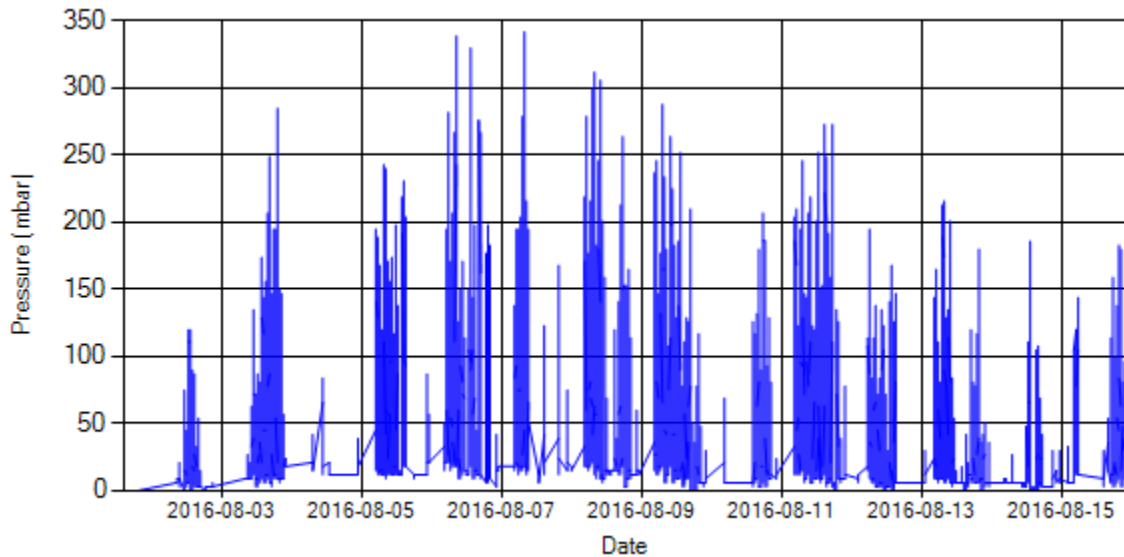


Figure 4- Pressure distribution over the period

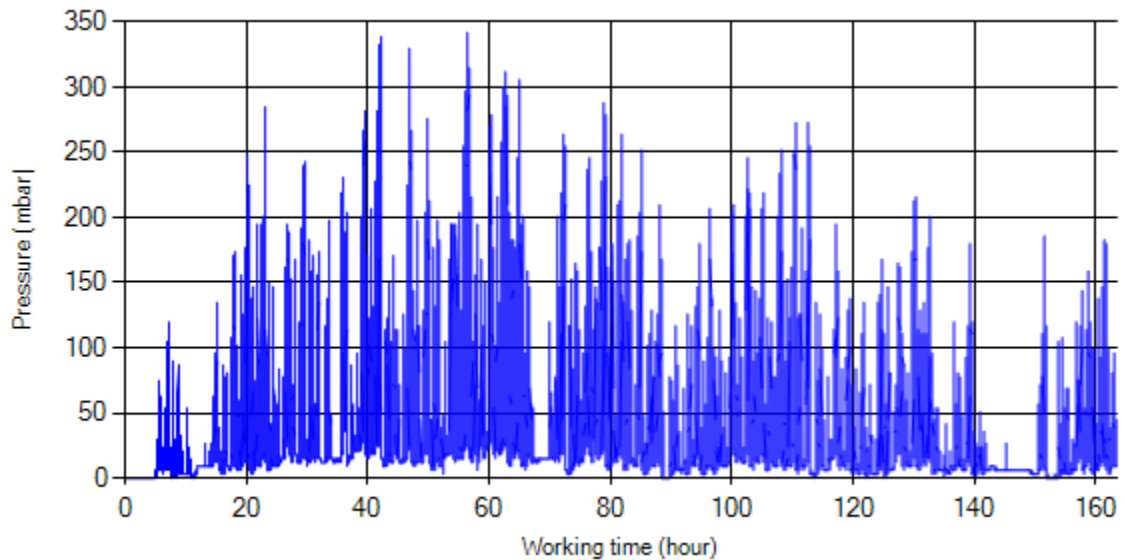


Figure 5- Pressure vs. working hours

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

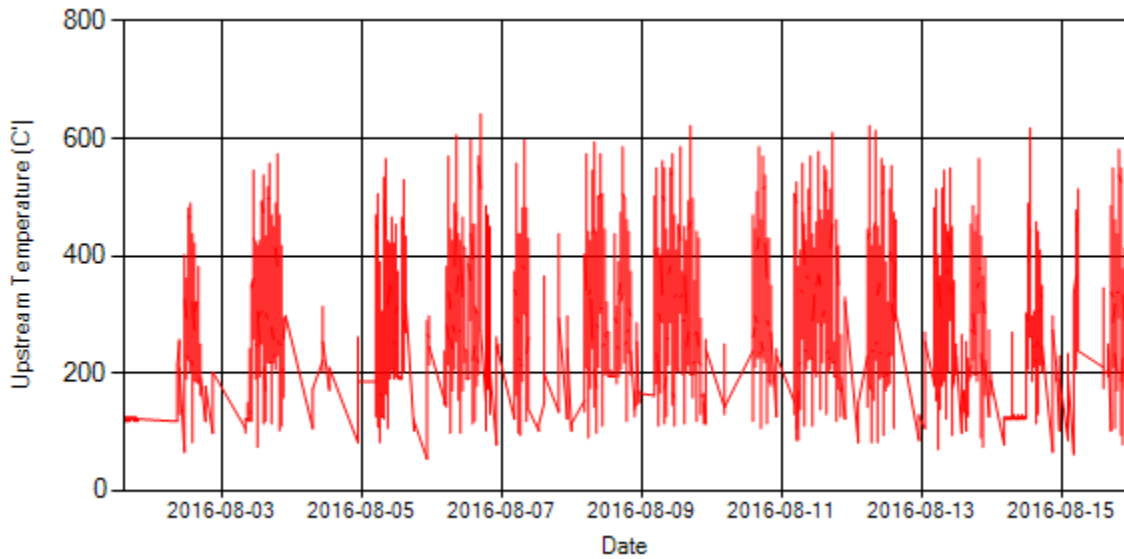


Figure 6- Temperature distribution over the period

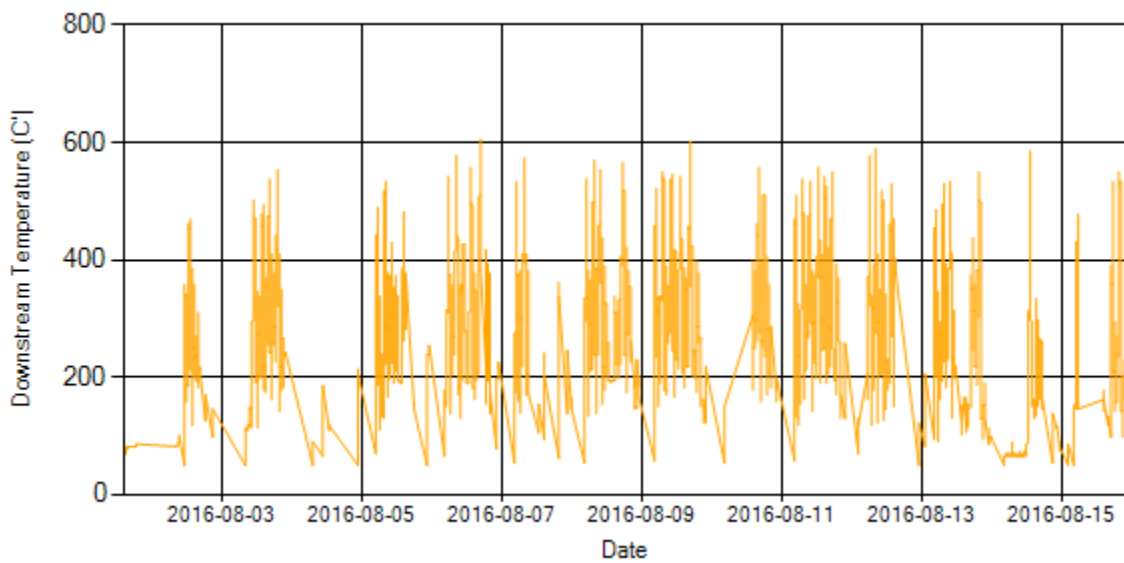


Figure 7- Temperature distribution over the period

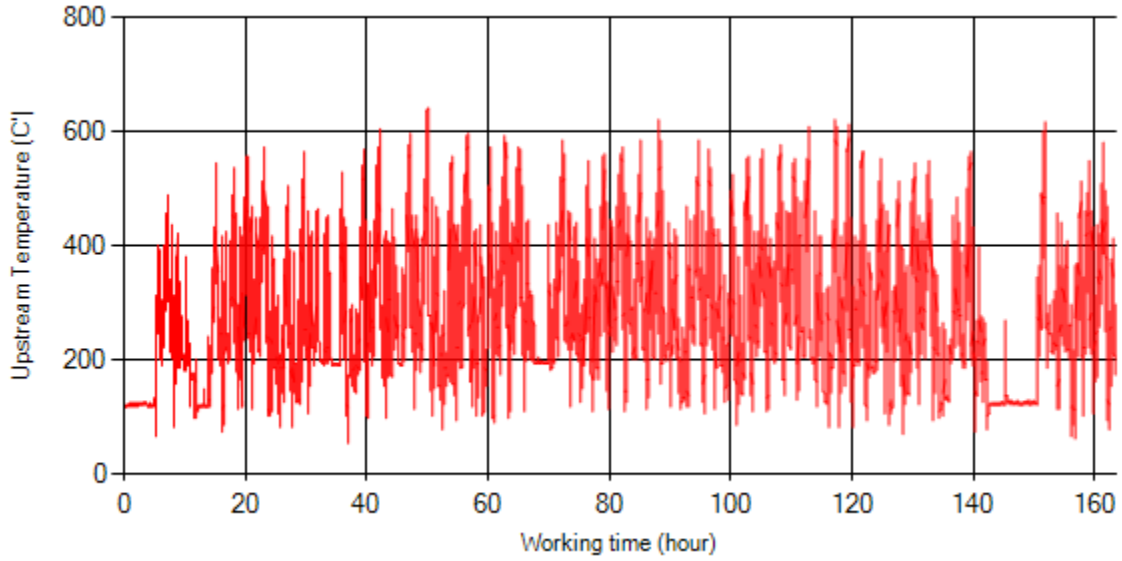


Figure 8- Temperature vs. working hours

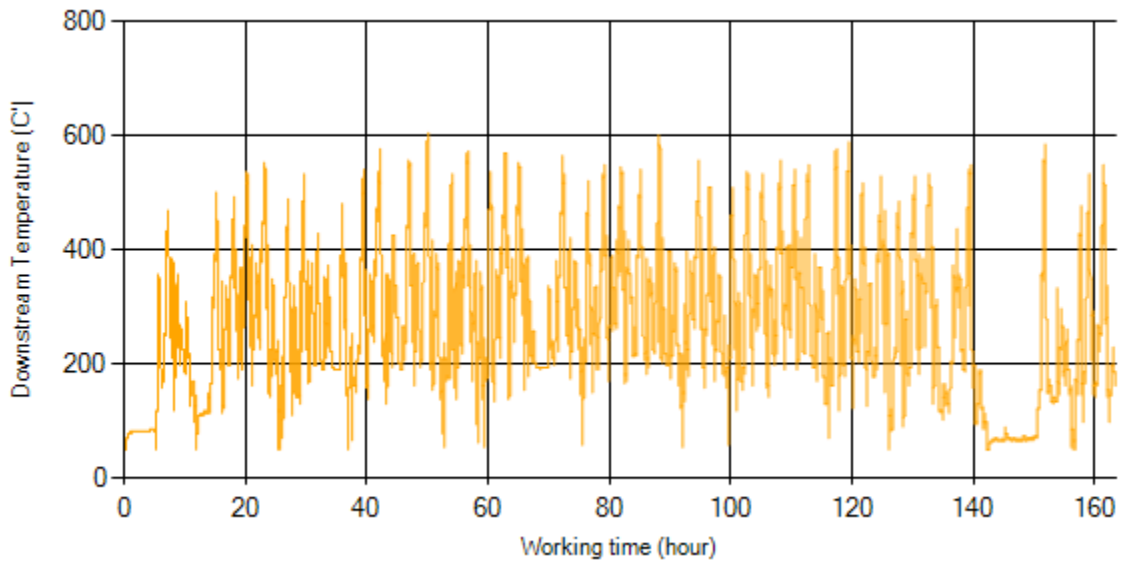


Figure 9- Temperature vs. working hours

## Engine Speed Diagrams

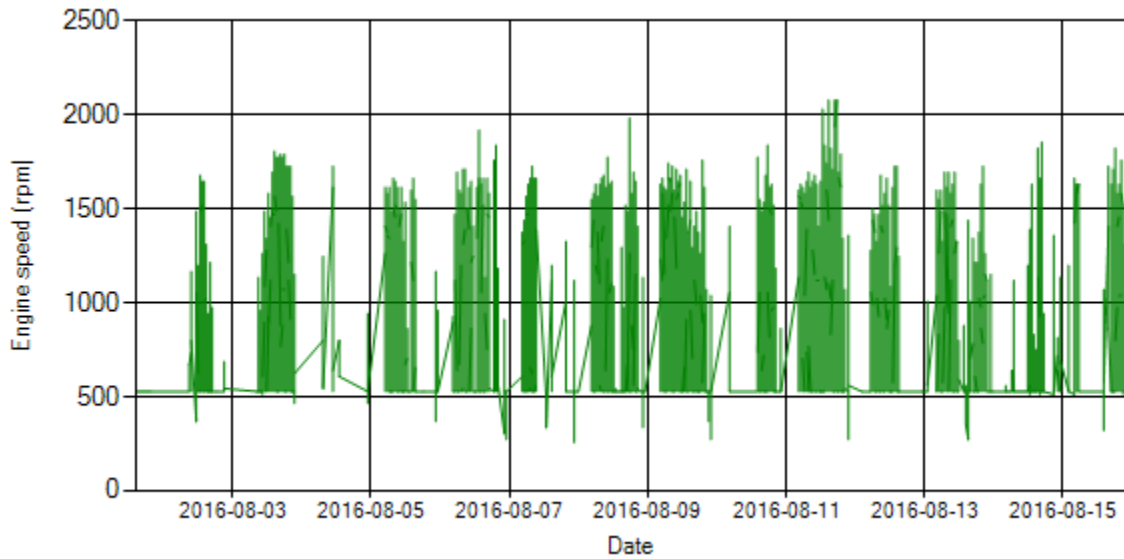


Figure 10- Engine speed distribution over the period

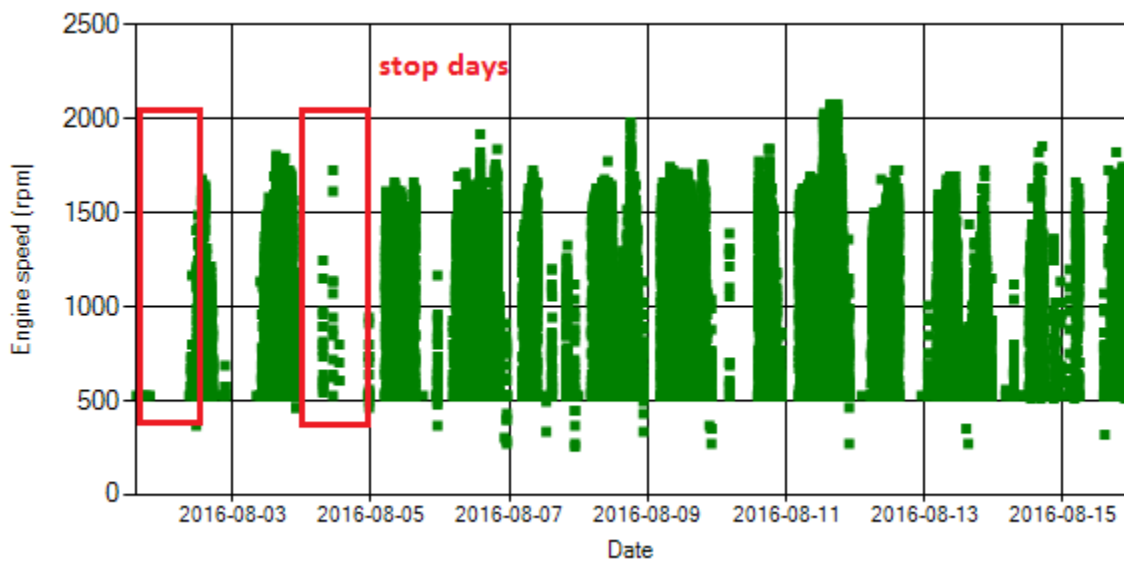


Figure 11- Engine speed diagram for calculating CPK's working days



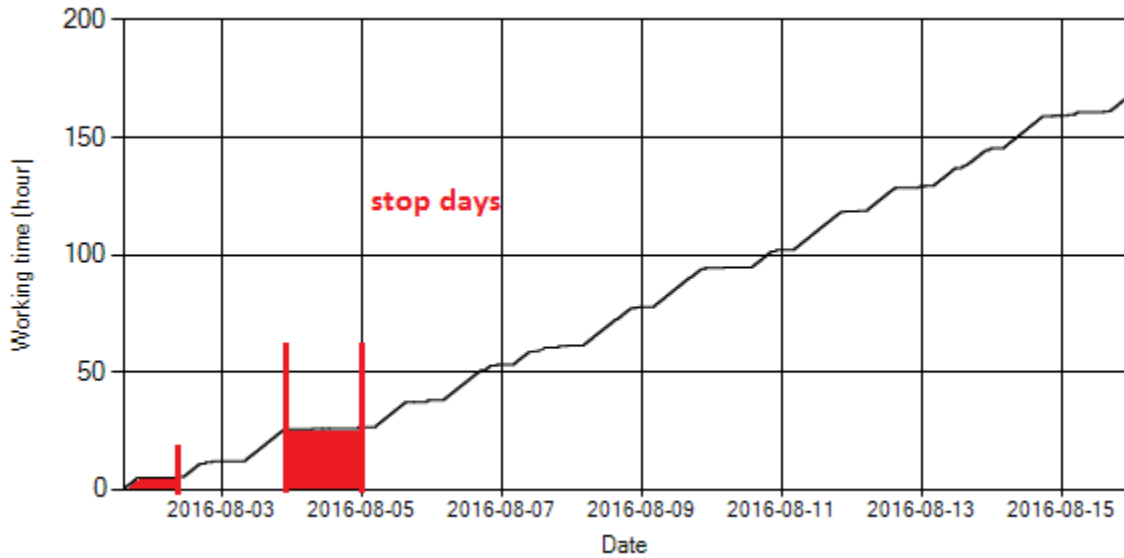


Figure 12- Time diagram for calculating CPK's working days

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 2 days.

### Pressure-Engine Speed diagrams

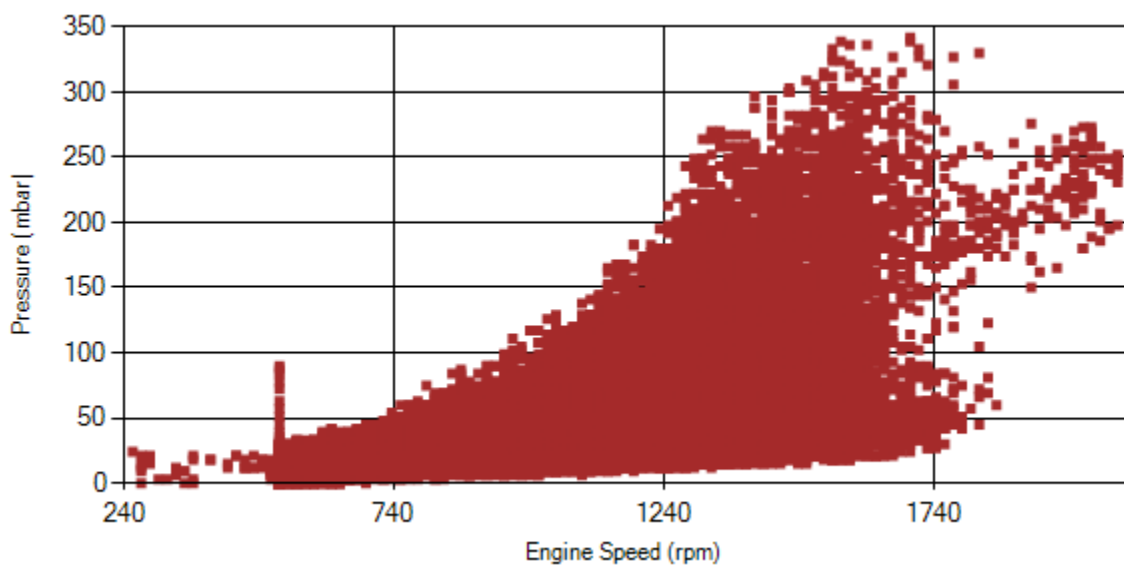


Figure 13- Pressure against engine speed

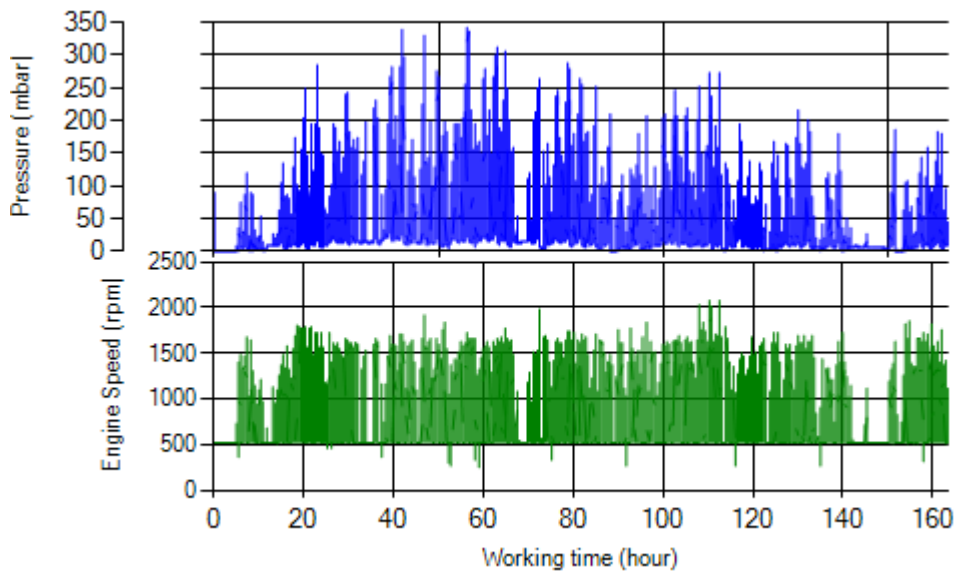


Figure 14- P, N distribution vs. working hours

### Temperature-Engine Speed diagrams

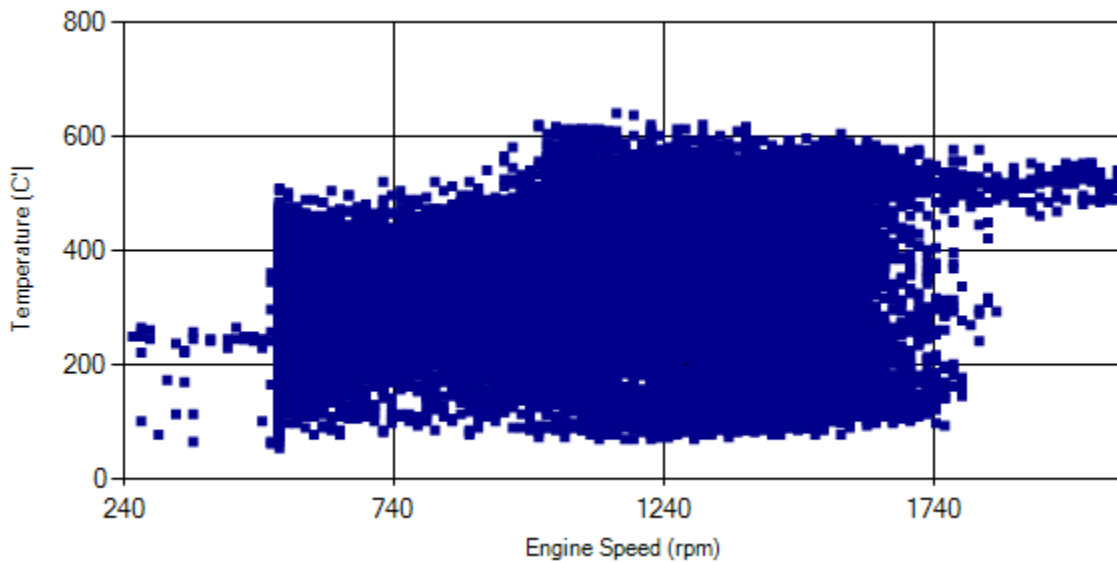


Figure 15- Temperature against engine speed

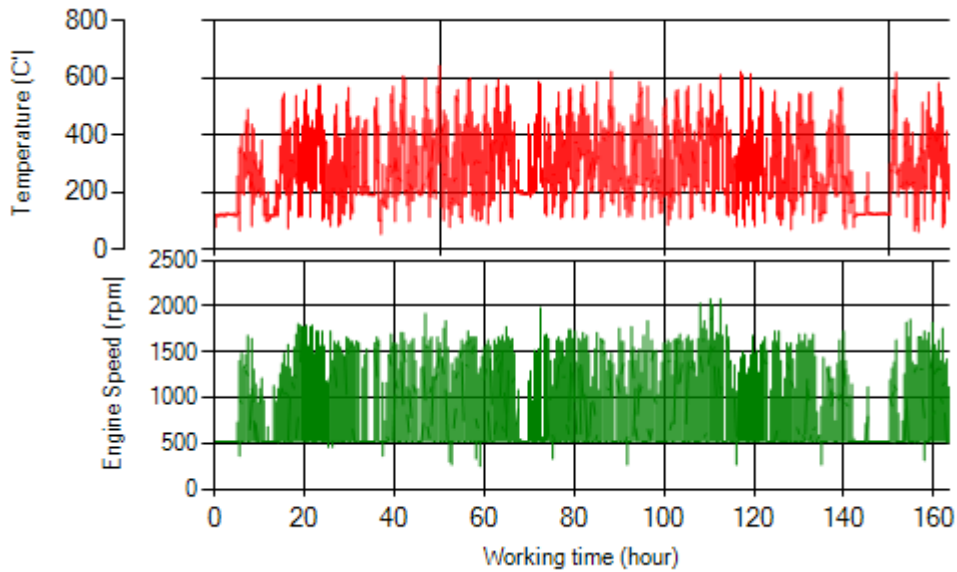


Figure 16- T, N distribution vs. working hours

### Filter Operation Analysis

- As depicted in Figure 1, 1.83% of working time, pressure was above 200 mbar and 4.4% above 150 mbar.
- Figure 2 displays flow temperature before the DPF. It can be obviously observed that 14.6% of total working time temperature is above 400 °C and 23.3% above 350°C.

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