

Notice: During this period **data logger** of system had problem due to **bus electrical system**, so high lack of data was made results unreliable.

Overall Information

Table 1- 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	PURIttech (Passive system with FBC)
Installation date	28/Jan/2015
Report period	16/May/2015 – 31/May/2015 (sixteen days)
K value - DPF upstream	1.60 [m^{-1}]
K value - DPF downstream	0.10 [m^{-1}]

Table 2- Maintenance Table

Filter maintenance date	DPF has been working from installation until now without any cleaning.
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)	16749 km
Bus mileage over the period	2328 km
Working days over the period	-
Stop days	-
Data logger working days	-
Working hours over the period	-
Average working hours per a day (including stop days)	-
Bus average speed	-
idle speed time to all working time ration	-
Total Bus fuel consumption over the period	1893 lit
fuel consumption per hour	-
Average fuel consumption	0.81 lit/km
Total Bus additive consumption over the period	0.98 lit
Average additive consumption	0.422 cc/km
additive consumption to fuel ration	520 cc per 1000 lit (Batch Dosing with Tank Level)

Notice: because of **data logger problem** some information missed.

Temperature, Pressure and Engine Speed Overview

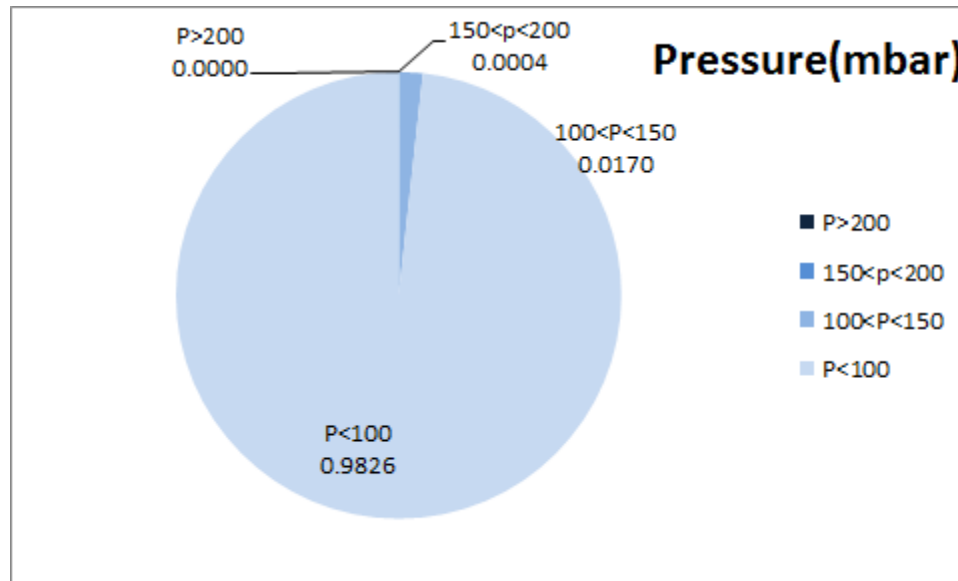


Figure 1- Pressure distribution over the working hours

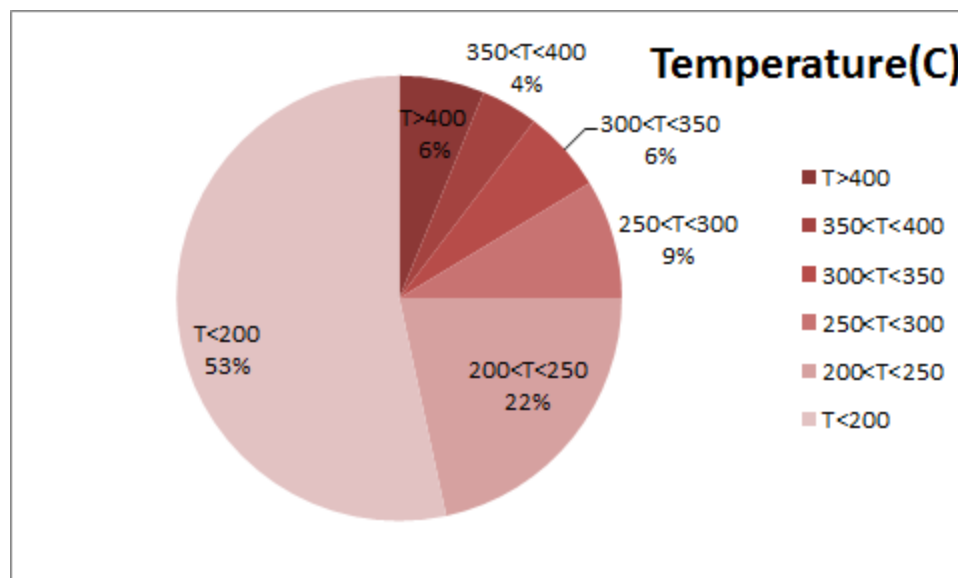


Figure 2-Temperature¹ distribution over the working hours

¹ - Exhaust temperature before the DPF

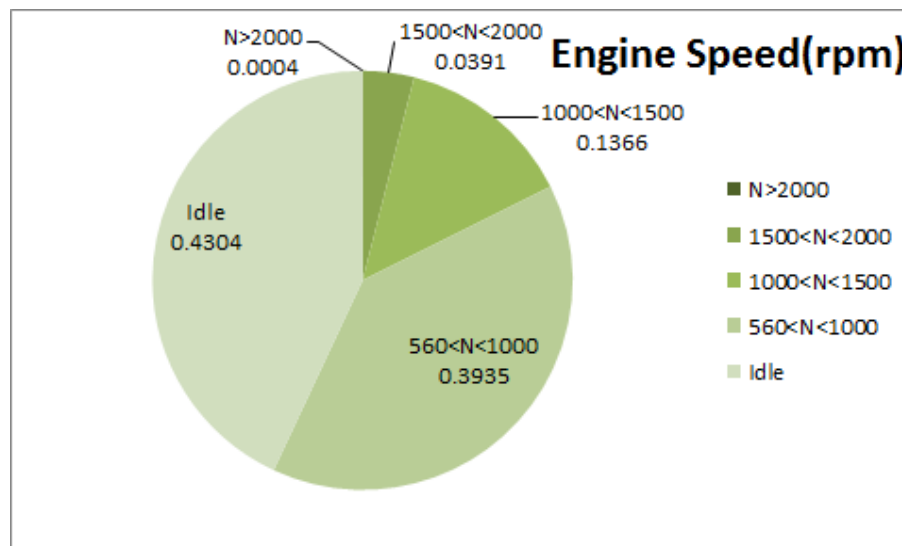


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature ² (C)	Mean pressure(mbar)	Mean engine speed(rpm)
216.9	14.12	776

Table 5- Mean values without idling

Mean temperature(C)	Mean pressure(mbar)	Mean engine speed(rpm)
258	21.97	947

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
550-50	168-0	2140-299

² - Temperature of before the DPF

Detailed Pressure Analysis

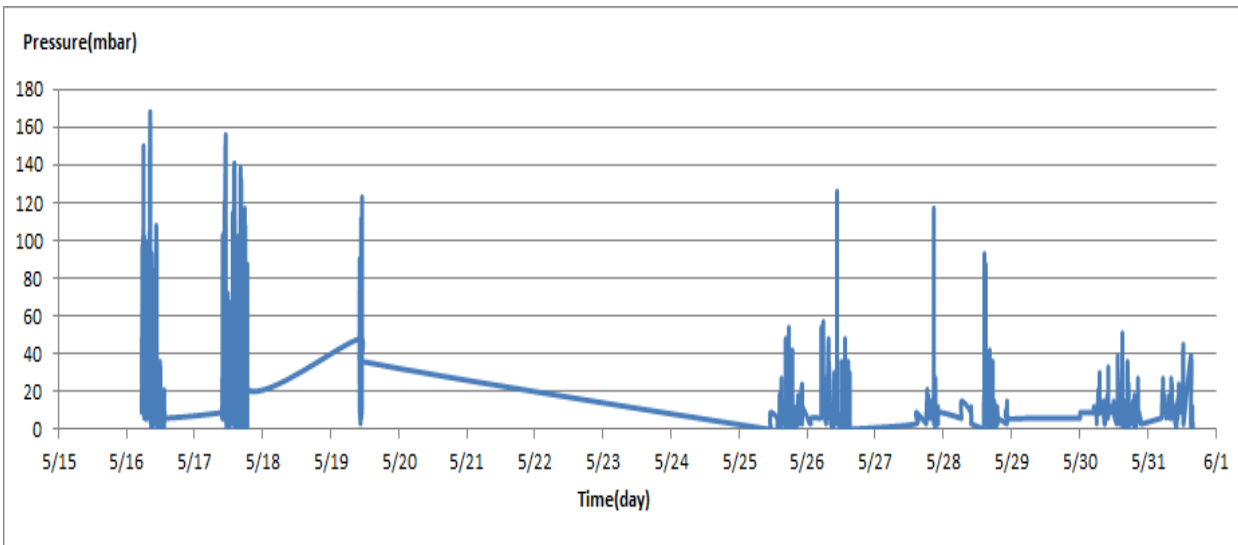


Figure 4- Pressure distribution over sixteen days

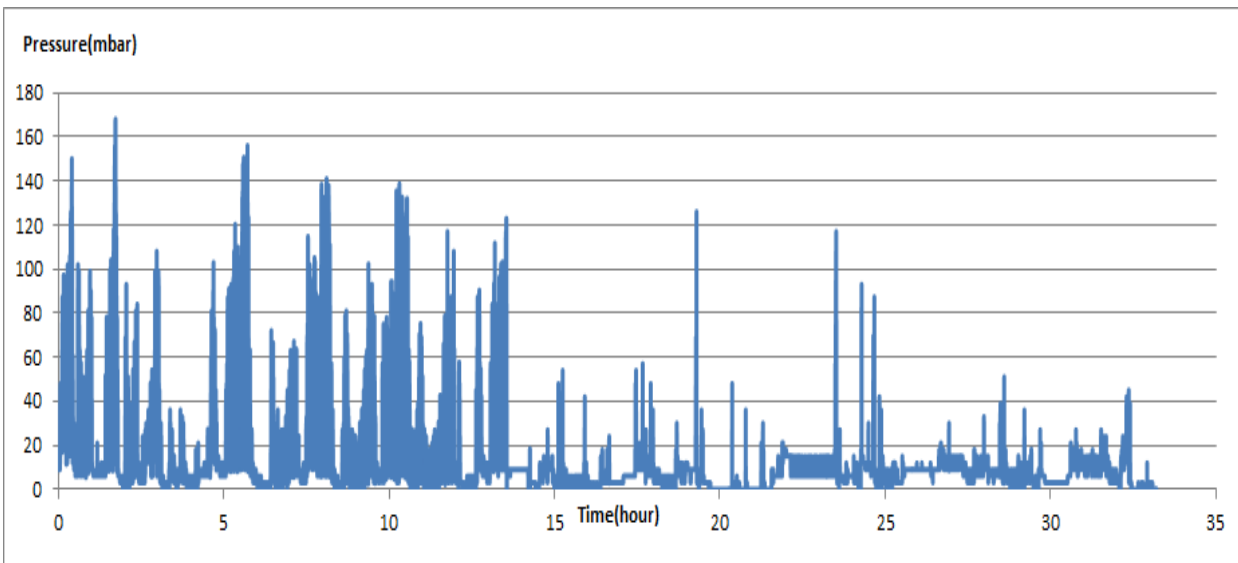


Figure 5- Pressure vs. working hours

Notice: backpressure distribution shown into two diagrams. As obvious in figure 5, stop-working periods were eliminated and pressure is displayed along working-hours.

Detailed Temperature Analysis

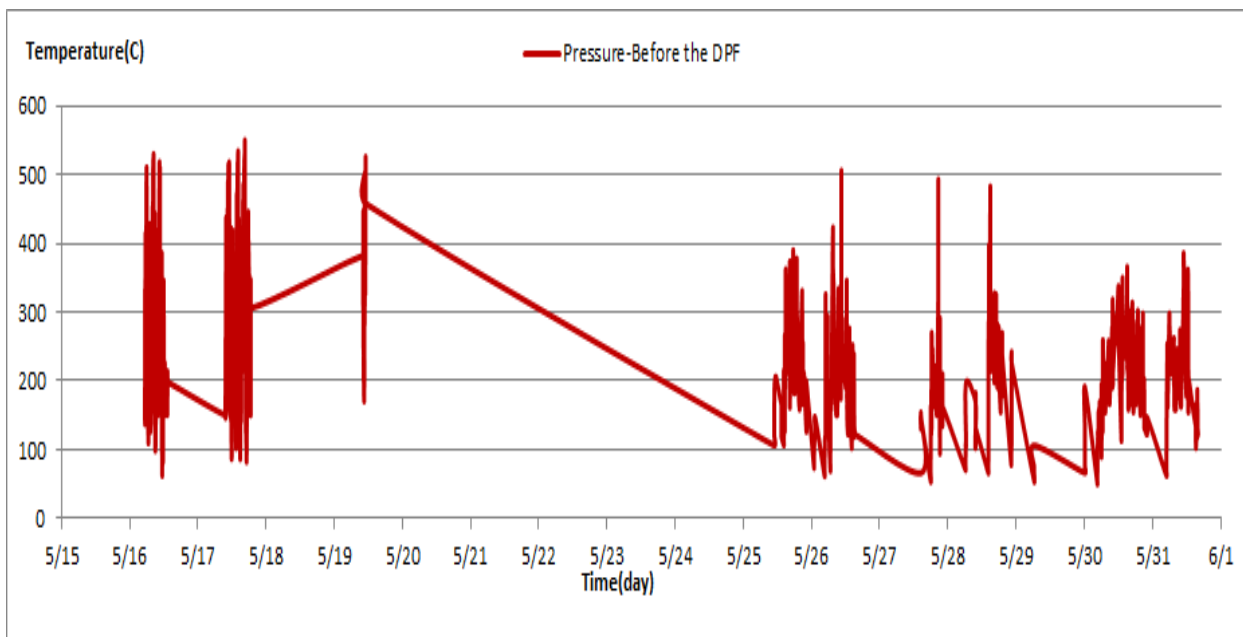


Figure 6- Temperature distribution over sixteen days

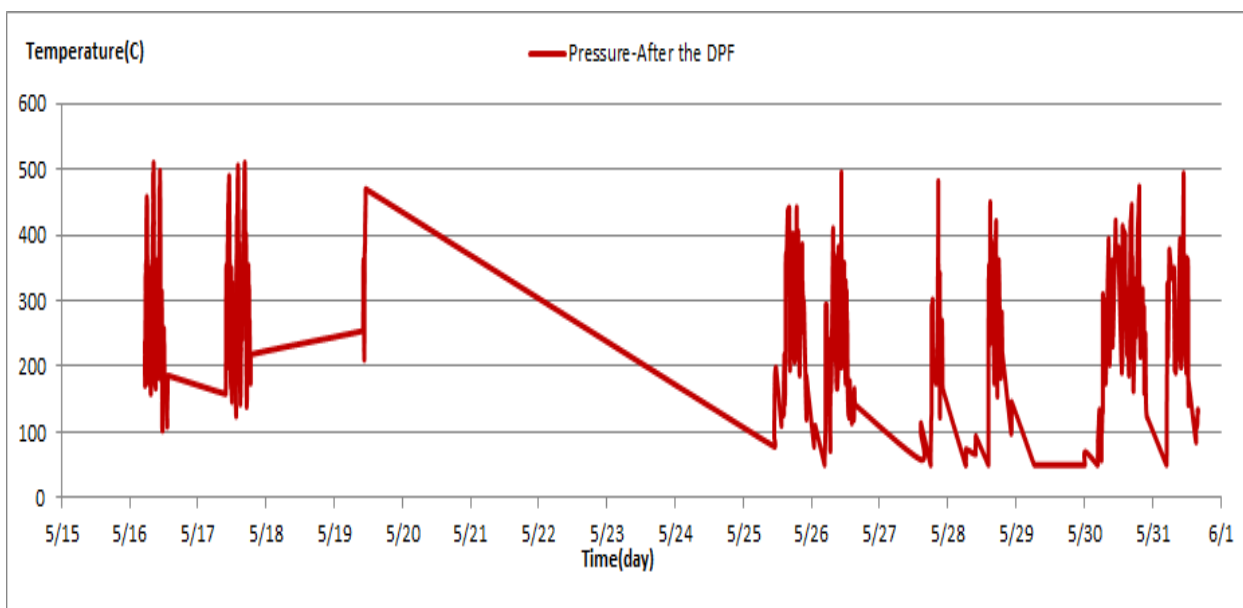


Figure 7- Temperature distribution over sixteen days

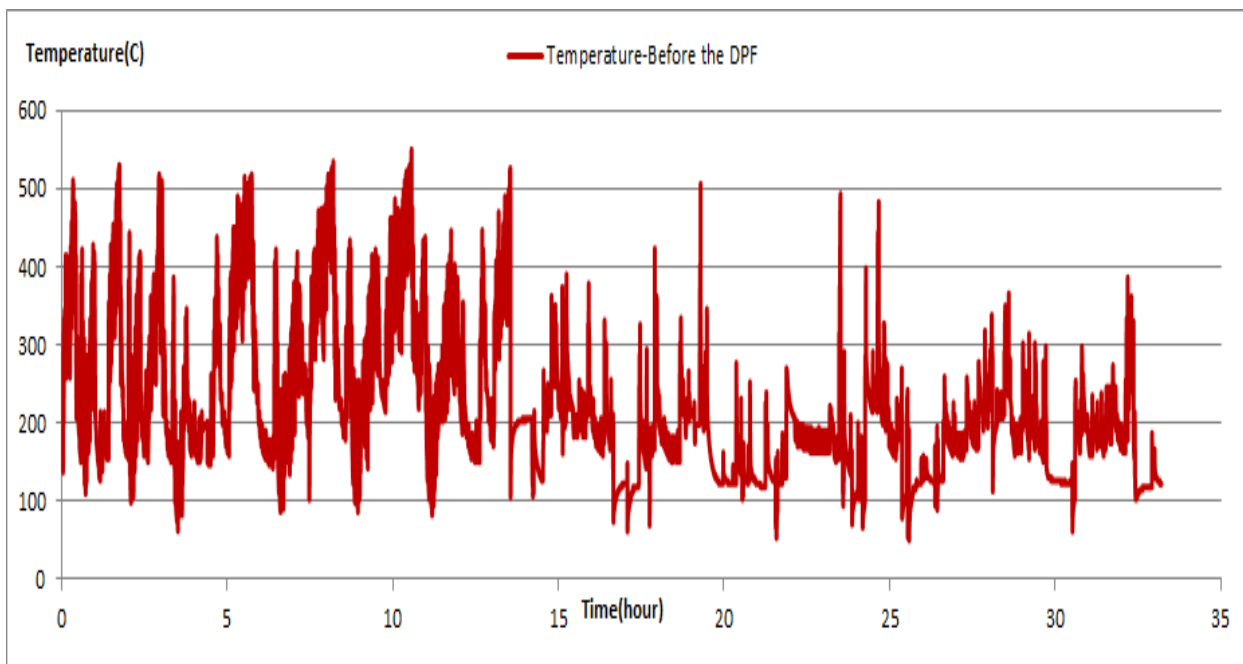


Figure 8- Before DPF temperature vs. working hours

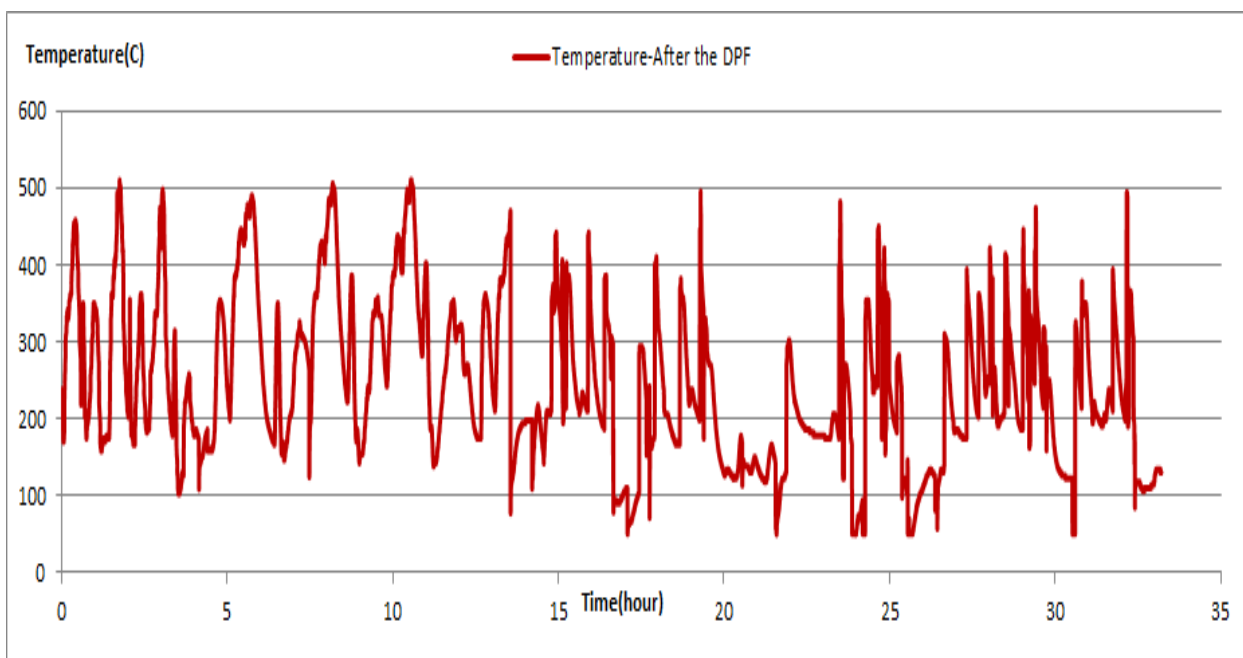


Figure 9- After DPF temperature vs. working hours

Engine Speed Diagrams

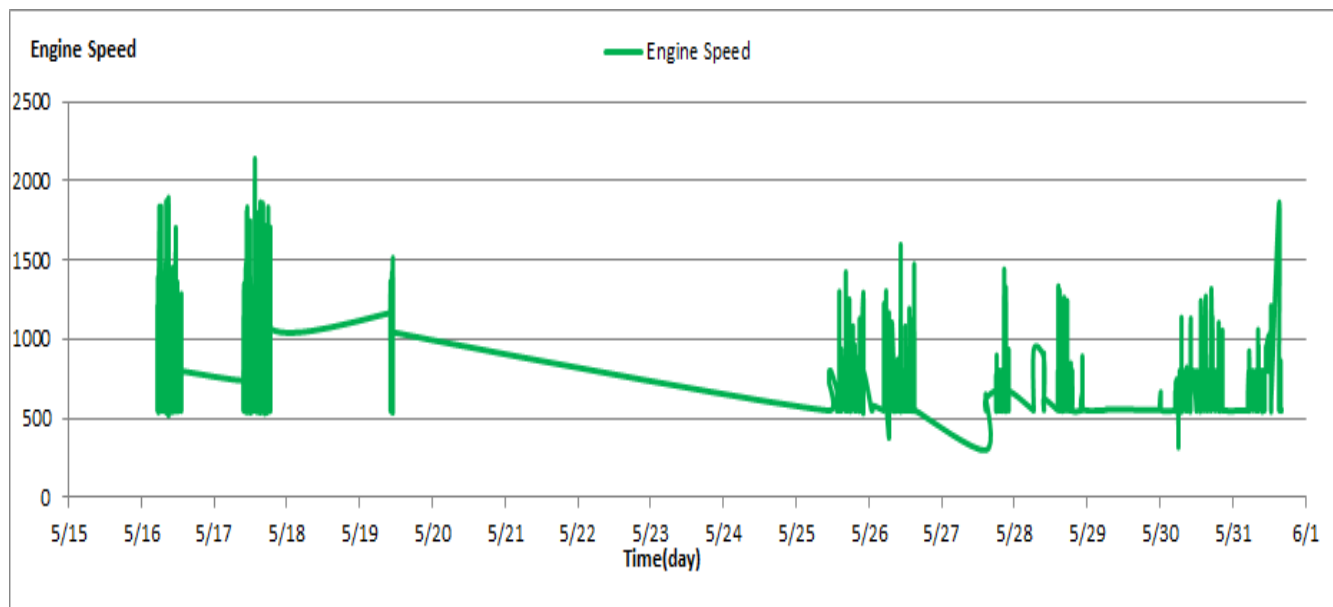


Figure 10- Engine speed distribution over sixteen days

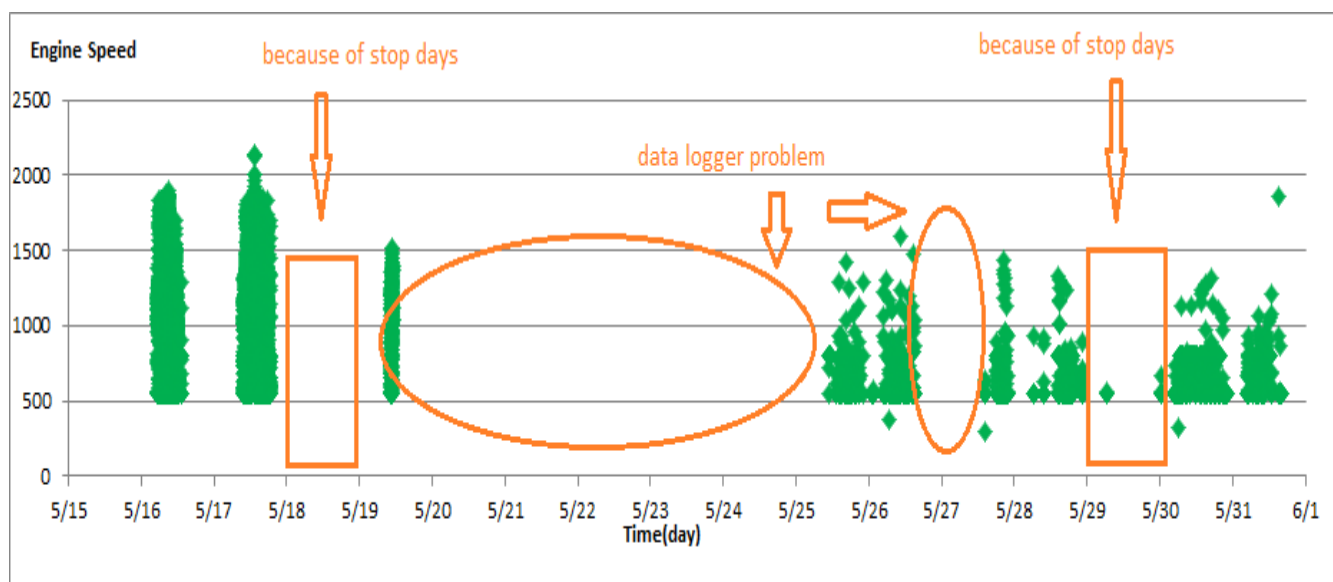


Figure 11- Engine speed diagram for calculating CPK's working days

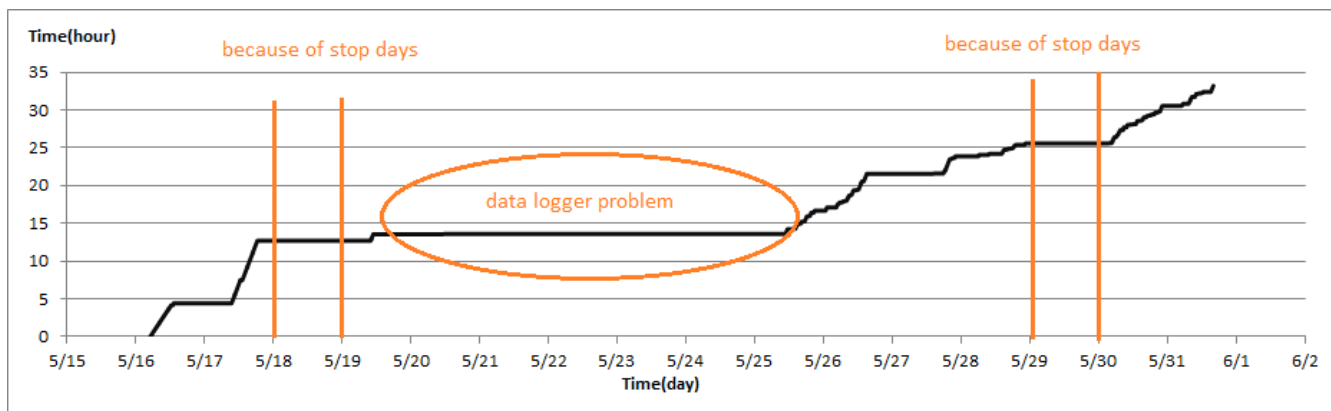


Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with time (day) axis show days without data logger data. As shown in this picture data logger didn't sample 50% of period's time. This high lack of data made results unreliable.

Pressure-Engine Speed diagrams

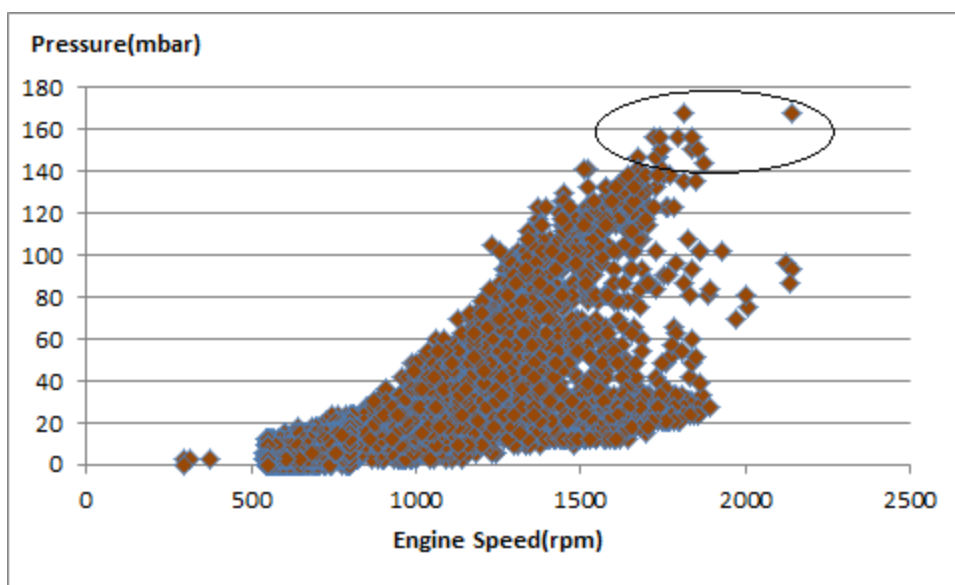


Figure 13- Pressure against speed

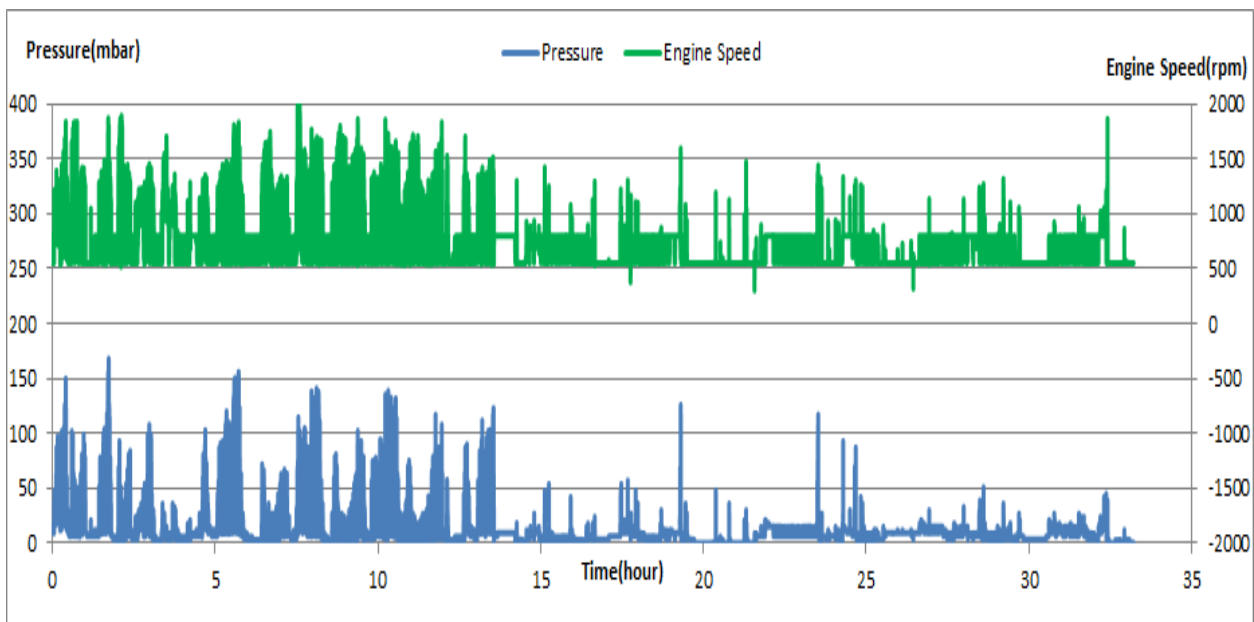


Figure 14- P, N distribution vs. working hours

Temperature- Engine Speed Diagram

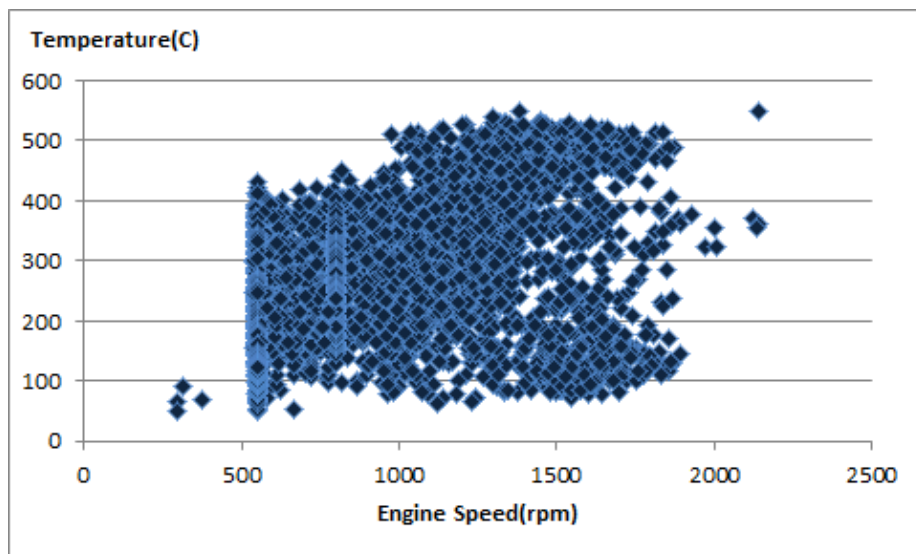


Figure 15- Temperature against speed

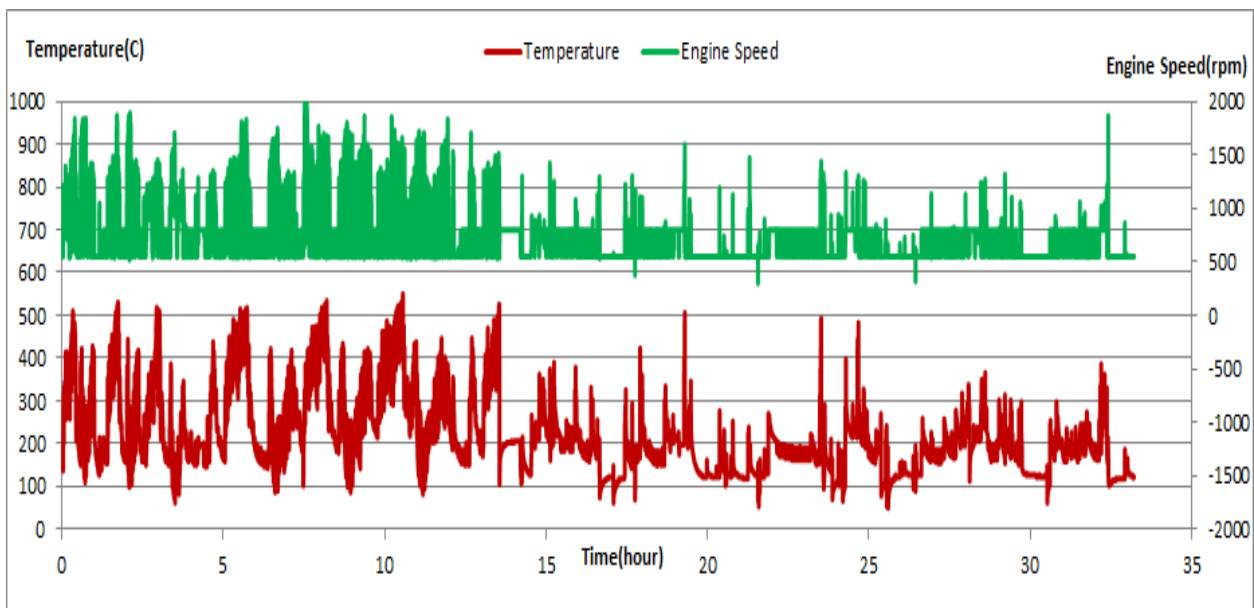


Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- During this period data logger of system had problem, because of high lack of data, results are unreliable.

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