

## Overall Information

*Table1- Overall Information*

Vehicle plate number	33572 (28958)
CPK data logger number	LN: 001521, DN: 1995, Sim Number +989218469643
Bus line	Number 2 (west to east bus line)
Bus Terminals	Khavaran Bus Terminal - Western Bus Terminal
Total path distance	19 km
DPF producer company	HJS_03 (active system with FBC – electrical heater)
Installation date	19/Feb/2015
Report period	16/Jun/2016 – 30/Jun/2016 (fifteen days)
K value - DPF upstream	1.95 [1/m]
K value – DPF downstream	0.02 [1/m]

*Table 2- DPF Maintenance History*

Filter maintenance date	<p>DPF was cleaned on Oct 5<sup>th</sup> for the first time. The second cleaning was done on Dec 19<sup>th</sup>. The third cleaning was done on Apr 2<sup>nd</sup> after 55613 km.</p> <p>A new core was installed on Jun 12<sup>th</sup>. New core was cleaned on 2016.06.25 for the first time<sup>*</sup>.</p>
Dosing status	Dosing value has been kept constant from installation date until now.

\*. Filter was working without additive because of pump problem, so cleaning was unavoidable after only 13 days form new core installation. It is worth to mention that, additive pump was replaced with new one.

*Table 3- Fuel and Additive Consumption Information*

Bus mileage (from DPF installation date)	68132 km
Bus mileage over the period	2649 km
Working days over the period	13 days
Stop days	2 days
Data logger working days	13 days
Working hours over the period	179 hours 10 minutes
Average working hours per day (including stop days)	11 hours 56 minutes
Bus average speed	14.8 km/hr
idle speed time to all working time ration	54.12 %
Total Bus fuel consumption over the period	1483 lit
Fuel consumption per hour	8.28 lit/hr
Average fuel consumption	0.56 lit/km
Total Bus additive consumption over the period	0.704 lit
Average additive consumption	265.9 cc/km
Additive consumption to fuel ration	475 cc/1000lit

## Temperature, Pressure and Engine Speed Overview

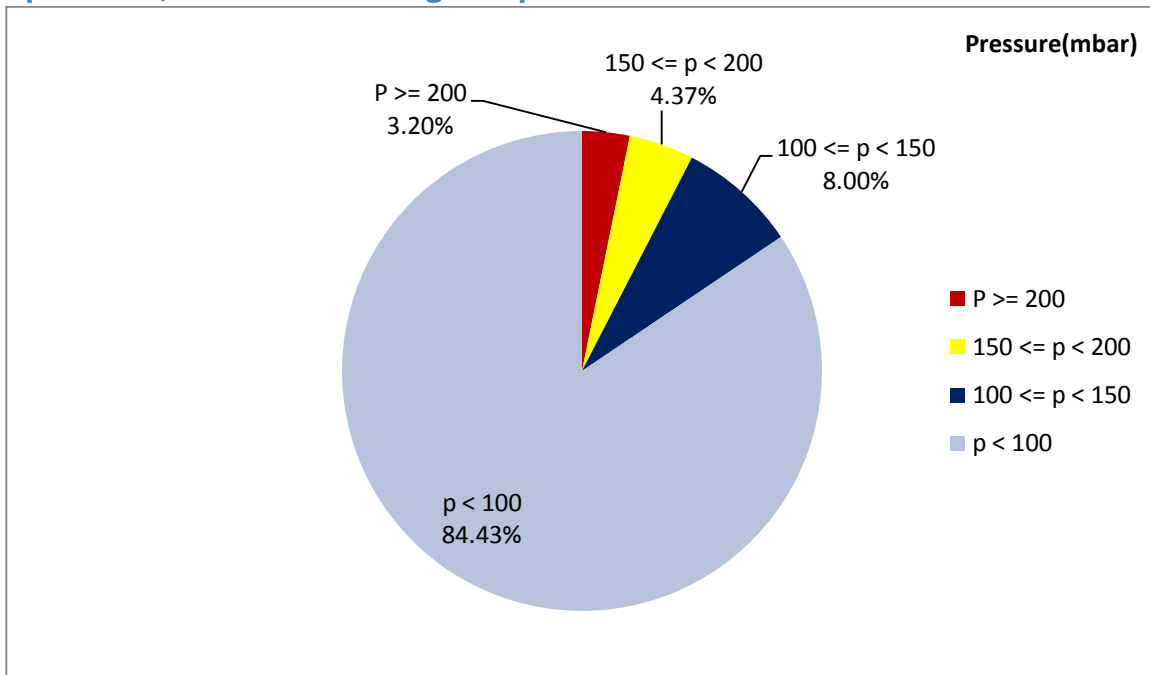


Figure 1- Pressure distribution over the working hours

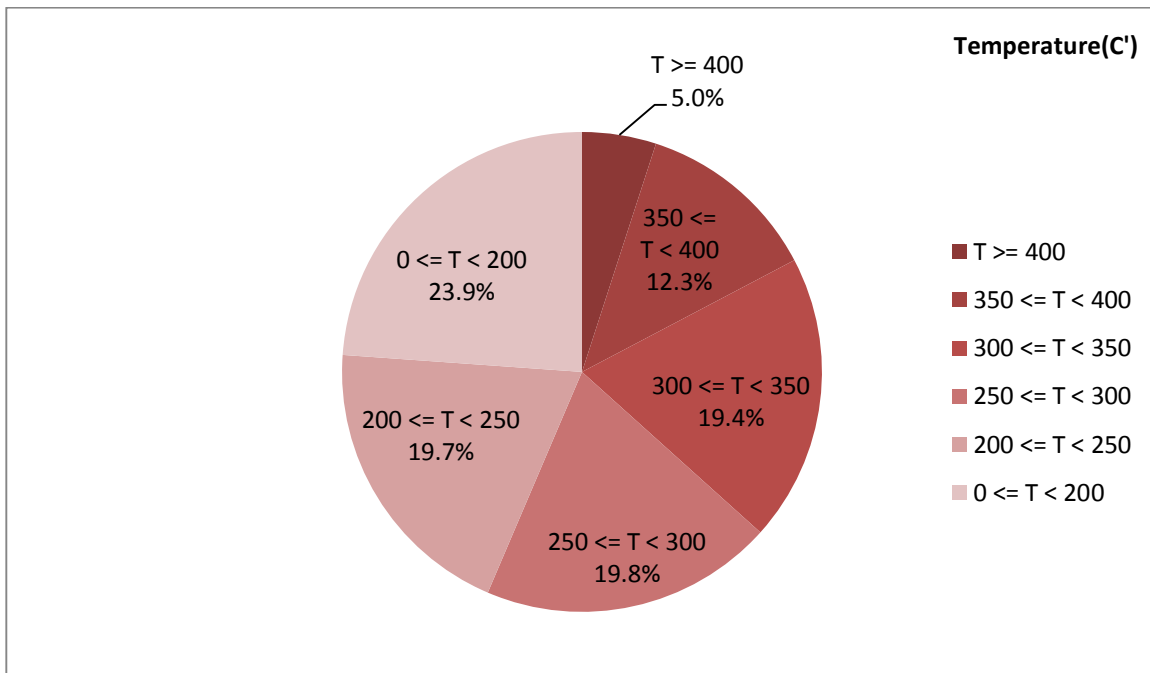


Figure 2-Temperature distribution over the working hours

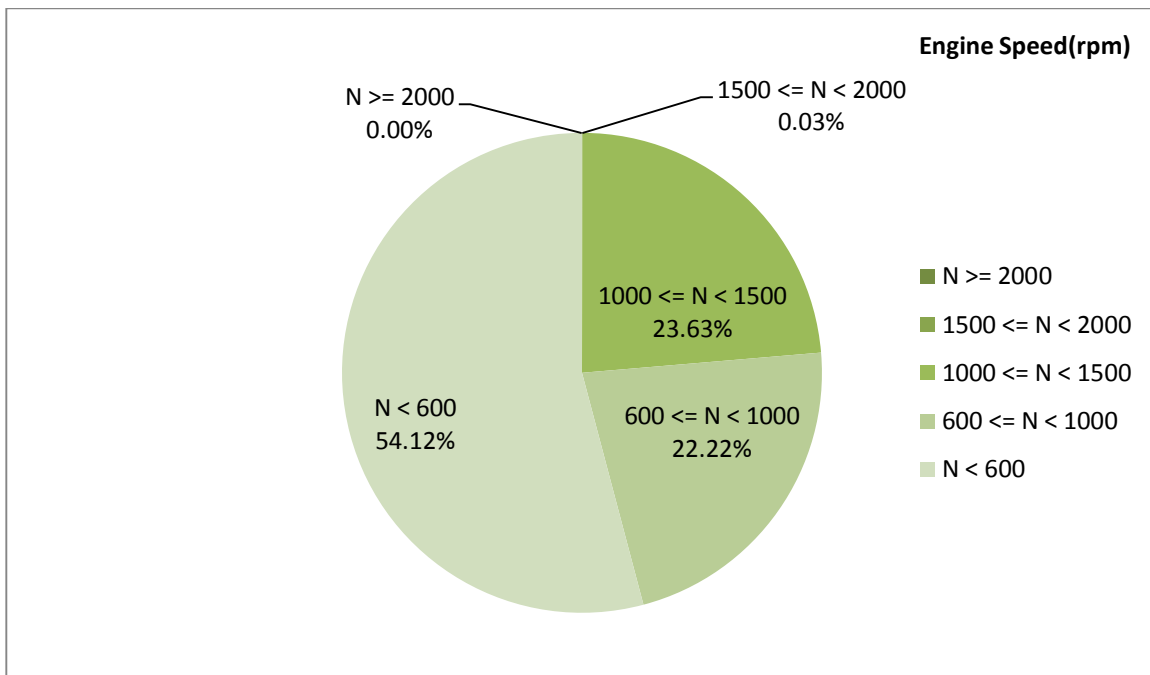


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
268.94	52.79	744

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
329.81	89.38	977

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
602-50	576-0	1824-304

Notice: This high-pressure distribution was due to additive pump problem.

### Detailed Pressure Analysis

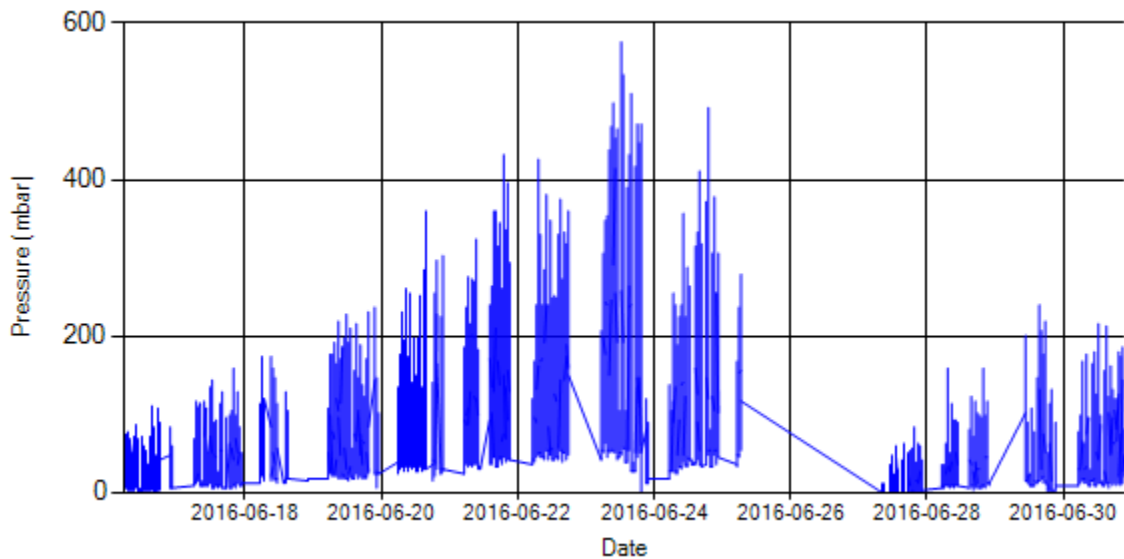


Figure 4- Pressure distribution over the period

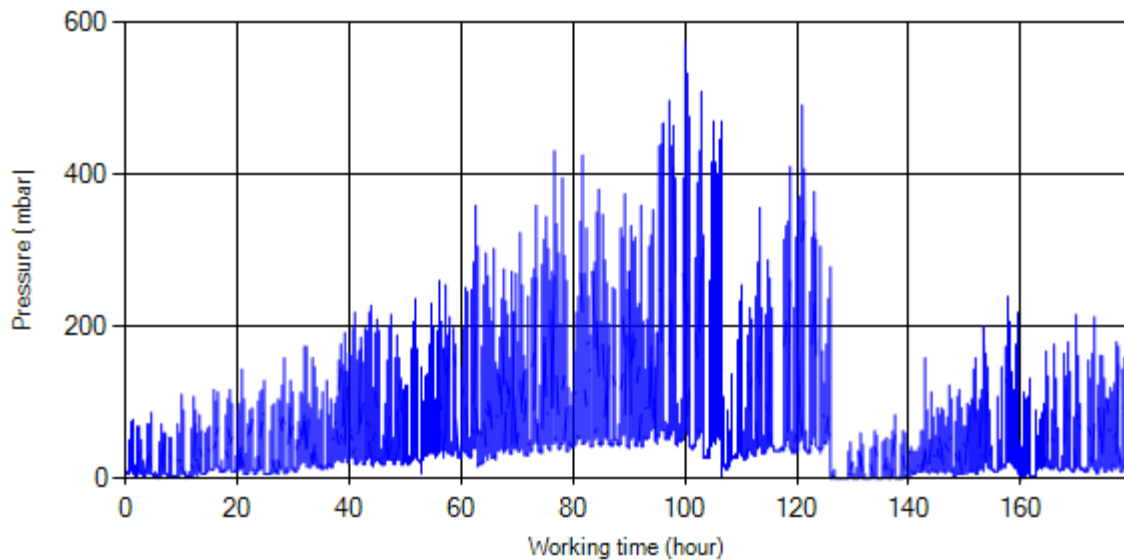


Figure 5- Pressure vs. working hours

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

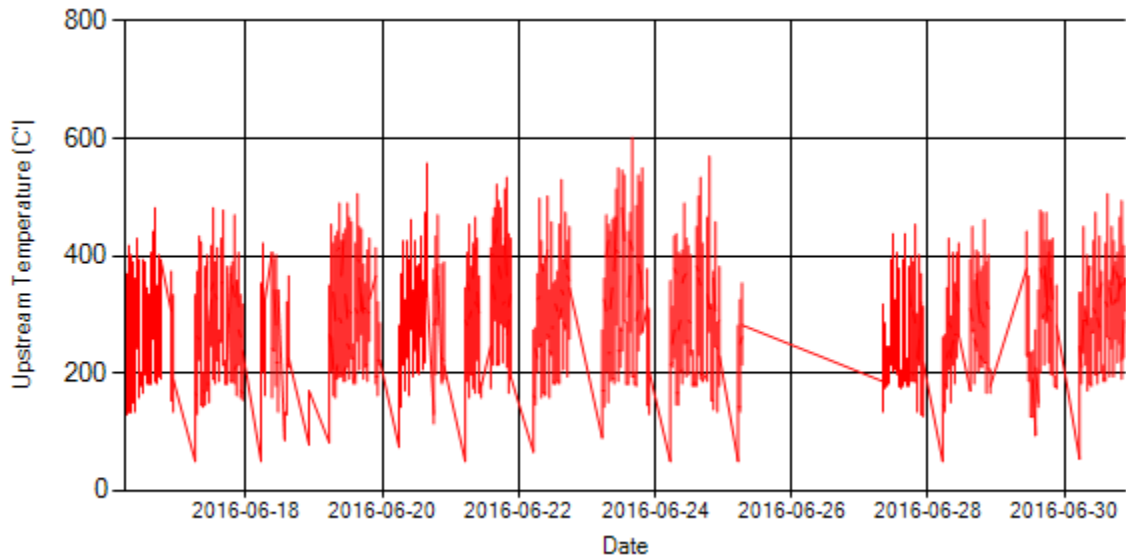


Figure 6- Temperature distribution over the period

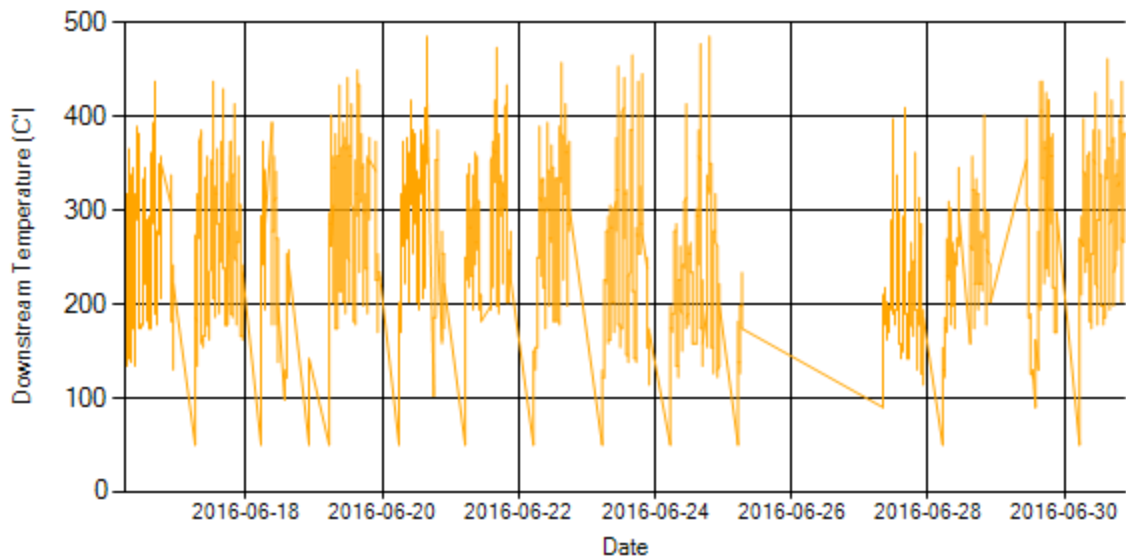
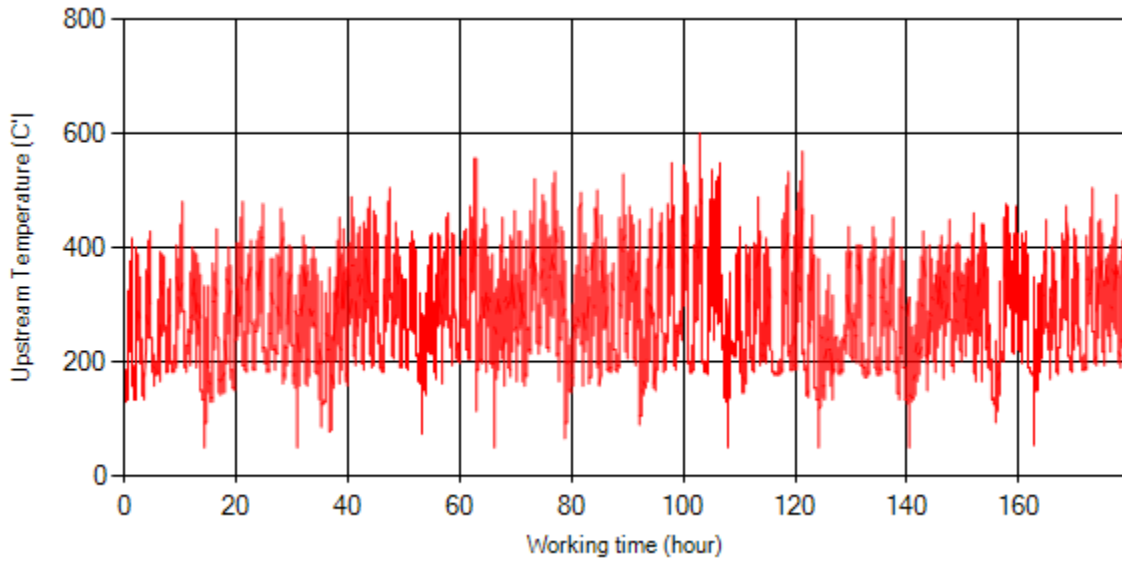
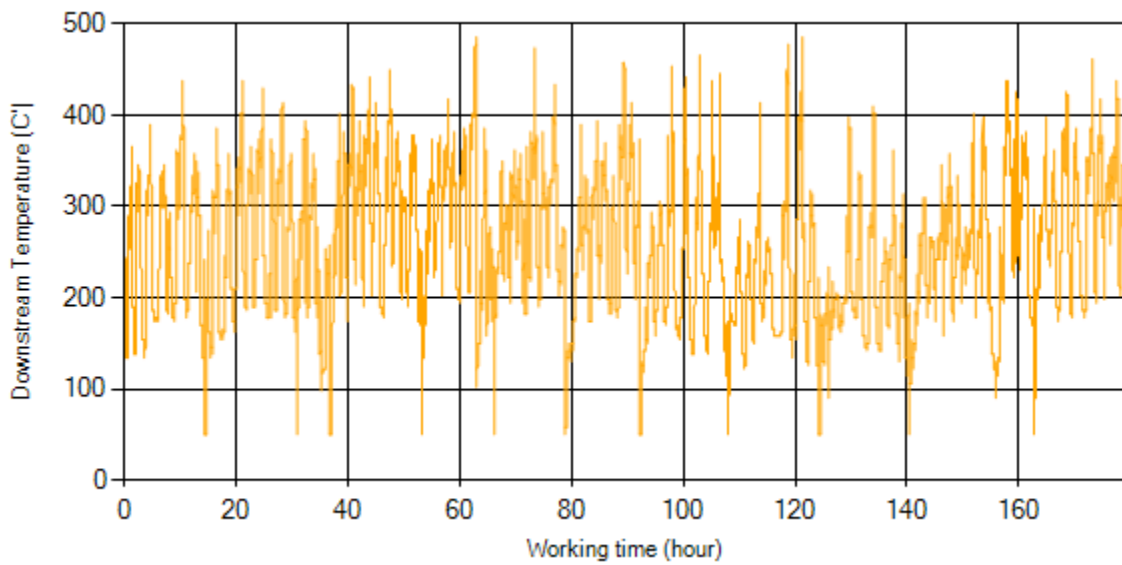


Figure 7- Temperature distribution over the period



*Figure 8- Temperature vs. working hours*



*Figure 9- Temperature vs. working hours*

## Engine Speed Diagrams

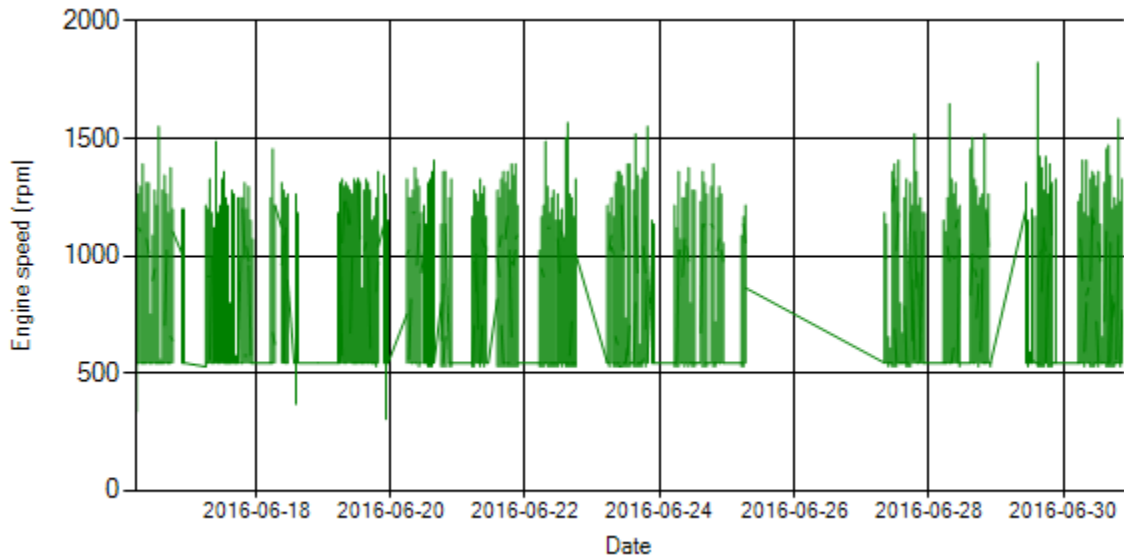


Figure 10- Engine speed distribution over the period

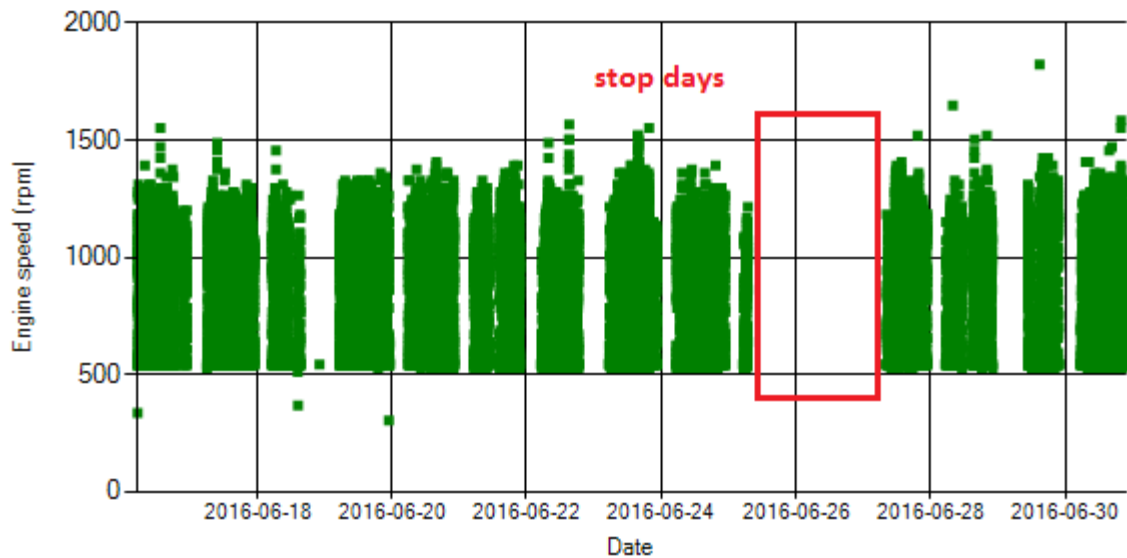


Figure 11- Engine speed diagram for calculating CPK's working days



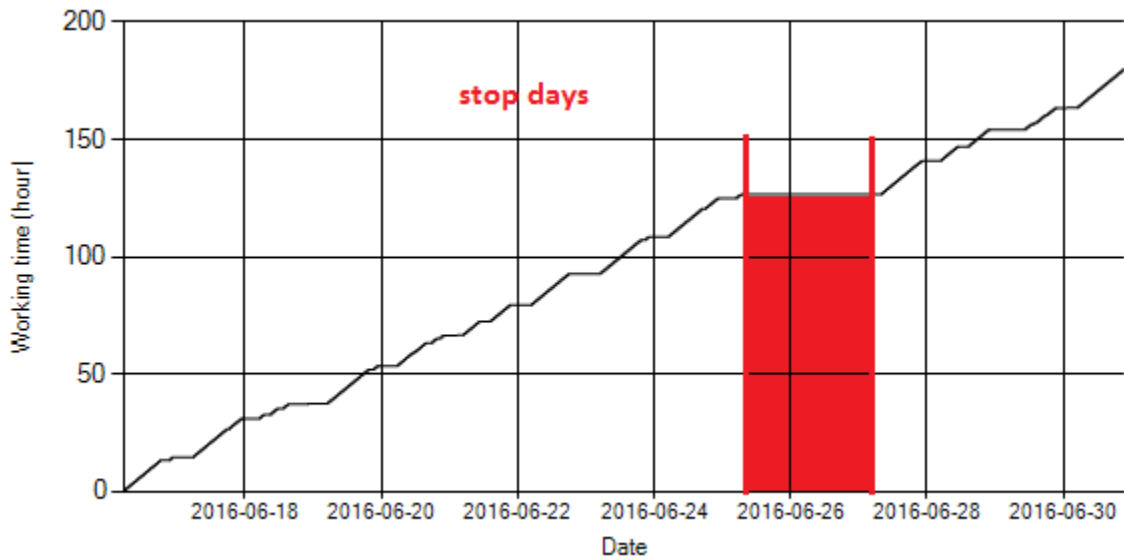


Figure 12- Time diagram for calculating CPK's working days

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 stopped for 2 days.

### Pressure-Engine Speed diagrams

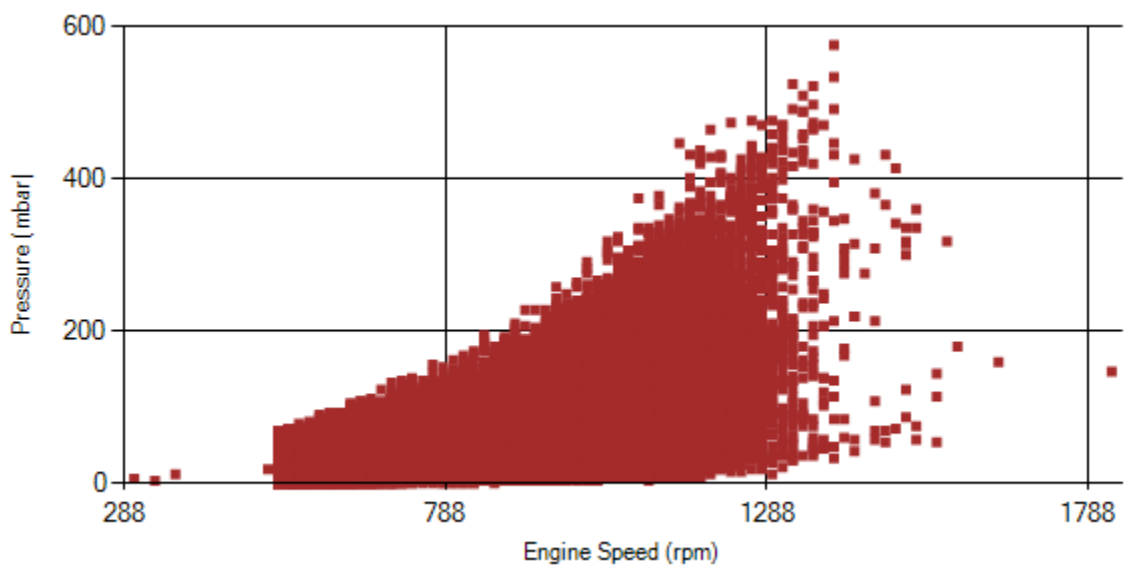


Figure 13- Pressure against engine speed

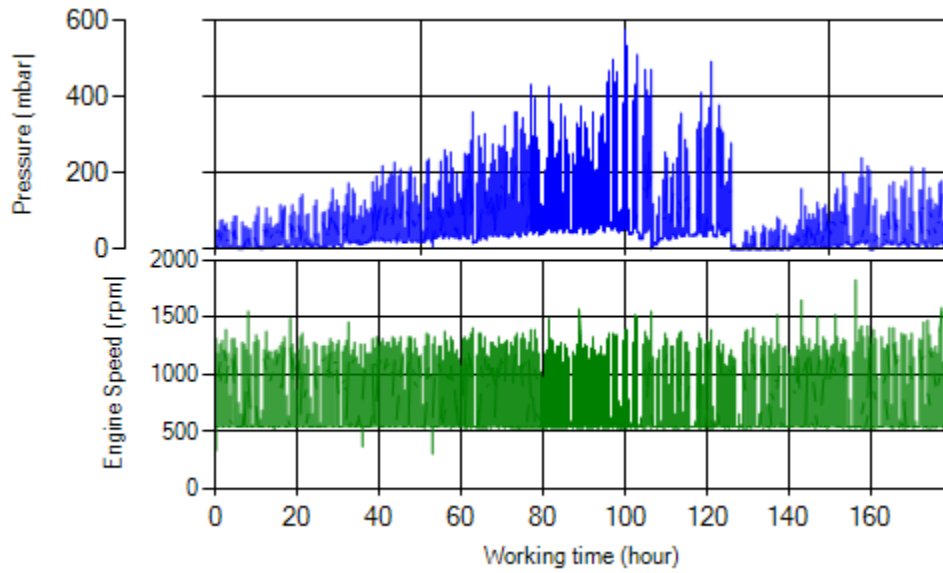


Figure 14- P, N distribution vs. working hours

### Temperature-Engine Speed diagrams

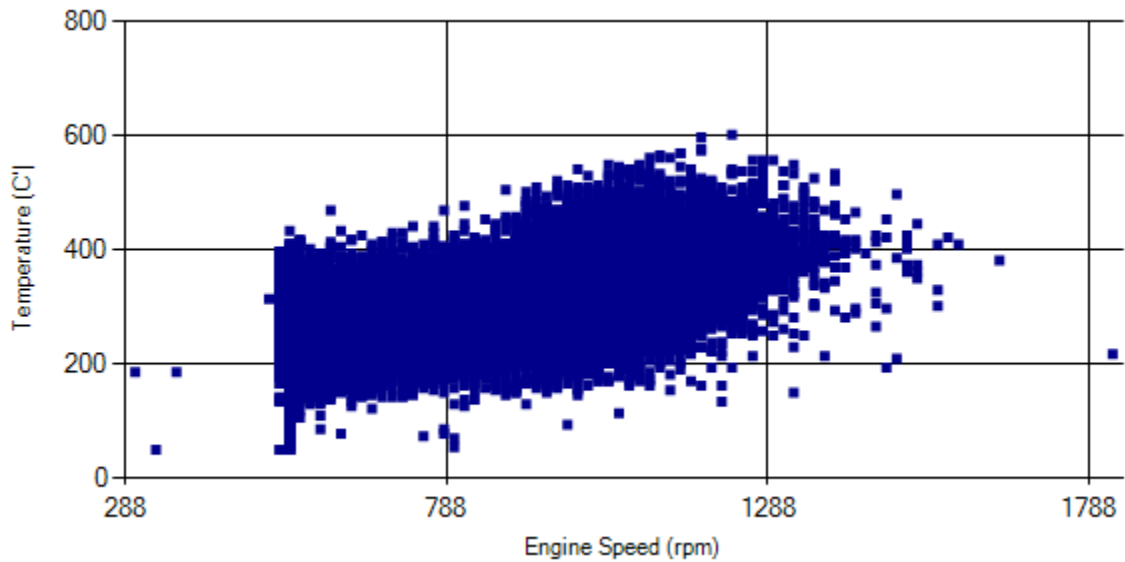


Figure 15- Temperature against engine speed

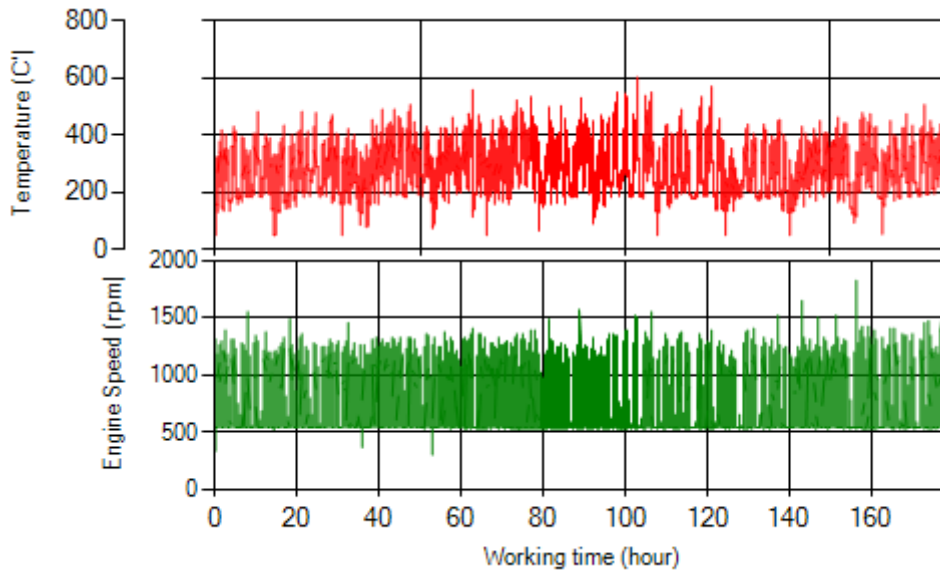


Figure 16- T, N distribution vs. working hours

### Filter Operation Analysis

- As depicted in figure 1, 3.20% of total working time pressure is above 200 mbar and 7.57% above 150 mbar during this period.
- Figure 2 displays flow temperature distribution for DPF's upstream. It can be obviously observed 17.3% of total working time temperature is above 350°C.
- These high pressure and temperature distribution were due to additive pump problem.

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