



### Trial Procedure

- ❖ The Diesel consumption maintained through two separate fuel drums of 210L capacity each, for pre and post-trial.
- ❖ Both drum's Diesel once checked for density via hydrometer; result was the same = 0.825 kg/L
- ❖ Diesel intake & return line was connected to the resp. 210L drum, instead of the Loco fuel tank.
- ❖ The engine was warmed up to operating conditions w.r.t the normal testing procedure
- ❖ Loco engine operating procedure as follows, during both pre & post-trial sequentially

Idle notch	10 minutes run
#2 notch	10 minutes run
#4 notch	10 minutes run
#7 notch	20 minutes run
#4 notch	10 minutes run
#2 notch	10 minutes run
Idle notch	10 minutes run
<b>Total time -&gt;</b>	<b>80 minutes</b>

- ❖ CO analysis, RPM, engine noise, measured at each notch. Load & Ampere noted down accordingly.
- ❖ After one cycle, consumption measurement in each tank done by filling them back up to the brim with 5L flask & 1L Borosil jar, and noting down the Diesel used for the same.

### PRE TRIAL

Recorded Reading Without Thermol-D (Date : 26 <sup>th</sup> June 2019)								
Notch	N	0	2	4	7	4	2	0
Minutes	min	10	10	10	20	10	10	10
RPM	rpm	710	1440	1730	2232	2220	2220	715
Amp.	A		322	485.5	730.5	739.5	724	
Voltage	V		154	215.5	288	272.5	271	
Horse Power	HP		74.0	156.2	314.0	300.8	292.8	
CO Emission	ppm	94	170	215	225	218	208	89
Sound Level	db	98.0	107.1	112.1	115.2	115.0	114.6	99.3
Time	Hrs	16:44 - 16:54	16:54 - 17:04	17:04 - 17:14	17:14 - 17:34	17:34 - 17:44	17:44 - 17:54	17:54 - 18:04
Fuel Cons	liters	<b>59.67</b>						

Summary of Results

**M/s TSL -Jamshedpur**

**Trial Conducted by : M/s AEL, Mumbai**

Locomotive Details		
Engine Make	:	Cummins
Locomotive Make	:	G.E
Cylinder	:	6
Locomotive No	:	64
Tank Capacity	:	2.5 KL
Capacity	:	400 HP
Commissioning Year	:	Apr-19

**Summary of Thermol D Trial in Loco #64**

Parameter	Unit	Pre Thermol D	Post Thermol D	Remark
Date		26-06-2019	27-06-2019	
Minutes	min	80	80	Constant time, Load bench
CO Emission	ppm	174.14	140	19.60 % reduction
Sound Level	db	108.75	105.14	3.61 Δ reduction
Fuel Consumption	Litre	59.67	55.51	6.97 % reduction in Diesel

Name & Designation	Signature	Name & Designation	Signature
S. Hanapathy Head E&MS	<i>S. Hanapathy</i> Head Equip. Maint. Services	Ajit Singh, Regional Manager.	<i>Ajit Singh</i> 28 June 2019
Nitin Chavhan Sr. Manager	<i>Nitin Chavhan</i> Sr. Manager	Amrakesh Yadav, Manager (T&E)	<i>Amrakesh Yadav</i> 28/06/19
Ajeet Kishore Dist. Mgr.	<i>Ajeet Kishore</i> Dist. Mgr.	Shanker Lal	<i>Shanker Lal</i> 28/06/19
For M/s TSL Limited		For M/s AEL	