

## MINUTES OF MEETING (MOM) BETWEEN



M/s. JAMUL MINES, JAMUL CEMENT WORKS, ACC CEMENT PLANT, BHILAI  
(CHHATTISGARH) AND M/s. ABHITECH ENERGYCON LIMITED (MUMBAI)

**Dated: 15/09/2021**

### Reference:

Purchase Order No. 1200831093/N206, dated on 05/06/21 for conducting **THERMOL-D** Trial at Jamul Cement Plant (ACC Ltd.), Bhilai, Chhattisgarh.

**Subject:** Performance Evaluation of **THERMOL-D** a multifunctional combustion catalyst for HSD on the **HEMM** to reduce the Lit/Hr (LPH).

Equipment's Name	Without THERMOL-D	With THERMOL-D
Excavator - Bhavani	01-July-21 to 31-Jul-21	05-Aug-21 to 31-Aug-21
Dumper - Amarkantak	01-July-21 to 04-Aug-21	05-Aug-21 to 12-Sept-21
Dumper - Satpura	01-July-21 to 04-Aug-21	05-Aug-21 to 12-Sept-21
Wheel Loader - Airavat	29-Aug-21 to 05-Sep-21	06-Sep-21 to 13-Sep-21

### Basis Of Evaluation:

To quantify the diesel saving with the usage of THERMOL-D, following method was opted.

### Calculation of Specific fuel consumption & performance evaluation

$$SFC \left( \frac{\text{Lit}}{\text{Hr}} \right) = \frac{\text{Total HSD Consumed}}{\text{Total Working HMR}}$$

The Saving (%) will be calculated as per the given formula for SFC.

$$\% \text{ Saving} \left( \frac{\text{Lit}}{\text{Hr}} \right) = \frac{\left\{ \text{Pre SFC} \left( \frac{\text{Lit}}{\text{Hr}} \right) - \text{Post SFC} \left( \frac{\text{Lit}}{\text{Hr}} \right) \right\}}{\text{Pre SFC} \left( \frac{\text{Lit}}{\text{Hr}} \right)} \times 100$$

Where-as,

Pre SFC = Lit/Hr without THERMOL-D

Post SFC = Lit/Hr with THERMOL-D

*Javakush*  
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*Javakush Vishwakarma,*  
*Manager - Tech.*  
For, Abhitech Energycon Ltd.

**Effect of THERMOL-D on Key Parameters:**

- Reduction in Specific Fuel Consumption (SFC).

**Data Collection:**

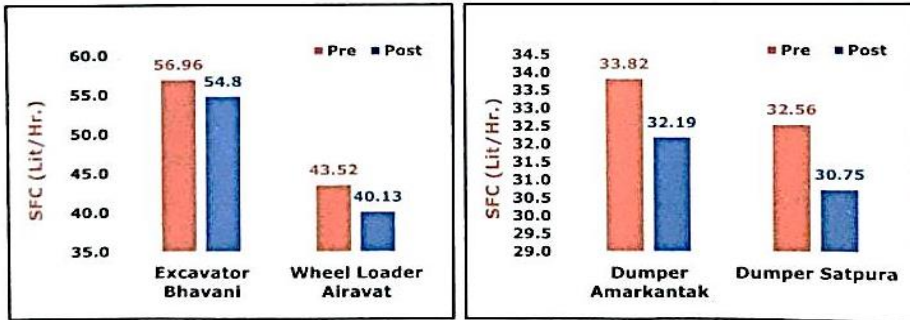
- THERMOL-D added in the ratio of 1:2000 on v/v basis.
- The same set of parameters has recorded during the pre-and post-trial.
- HMR data were taken from the individual equipment's on daily basis.
- All the Data were authenticated by the section engineer.
- Enclosed: Annexure I – Pre & Post trial report of selected Equipment.

**Comparison Report:**

Specific Fuel consumption (Liter/hour) & comparison is given below:

THERMOL-D Trial Summary of Mining Equipment's using at Jamul Mines, Jamul Cement Plant (ACC Ltd.)								
Sr. No.	EQUIPMENT DESCRIPTION	Base	Cumulative Hours Worked	Cumulative HSD Cons.	THERMOL-D Dosage	Avg. SFC	HSD Saved	% Saving
			Hrs.	Ltrs.	ML	Lit/Hr.	Lit/Hr.	Lit/Hr.
01	Excavator Bhavani	Pre	347.5	19793.0	-	56.96	2.16	3.80
		Post	336.5	18439.0	9224.0	54.80		
03	Dumper Amarkantak	Pre	292.2	9882.0	-	33.82	1.63	4.83
		Post	366.8	11806.0	5907.0	32.19		
03	Dumper Satpura	Pre	321.8	10479.0	-	32.56	1.81	5.56
		Post	414.5	12747.0	6377.0	30.75		
04	Wheel Loader Airavat	Pre	114.0	4961.0	-	43.52	3.38	7.78
		Post	90.3	3624.0	1813.0	40.13		
Average % Saving (LPH)							5.49%	

**Graphical Representation:**



*Jankh*  
 15/07/21  
 Jankh Ushwarkumar  
 Manager - Tech.  
 For, Abhitech Energycon Ltd.

**Break Even Point:**

$$\text{Break Even Point (BEP)} = \frac{\text{Cost of THERMOL D}}{\text{Cost of Fuel x Dosage}} \times 100$$

$$\text{Break Even Point (BEP)} = \frac{1600}{90 \times 2000} \times 100$$

$$= 0.88 \%$$

**Cost Benefit Analysis:**

Particulars	Unit	Value
Monthly HSD Consumption	KL	150.00
Rate per KL	INR/KL	90,000.00
Cost of HSD	INR	13,500,000.00
Gross Savings (LPH)	%	5.49
HSD Saved	KL	8.24
Gross Monetary Savings	INR	7,41,600.0
THERMOL D Dosage	Lit:KL	1:2
THERMOL D Required	Lit	75.00
THERMOL D Rate per Lit	INR	1600.00
Cost of THERMOL D	INR	1,20,000.00
Break Even Point	%	0.88
Net Savings	%	4.61
Net Monetary Savings (Monthly)	INR	6,21,600.0
Monetary Savings (Annual)	INR	74,59,200.0

For, JAMUL MINES, JAMUL CEMENT WORKS

*[Signature]*  
 Manager - Maintenance

*[Signature]*  
 Manager - Mining

*[Signature]*  
 15/09/21  
 G.M. - Mining

For, ABHITECH ENERGYCON LIMITED

*[Signature]*  
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 Manger - Technical Lavakush Vishwakarma.

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 (Alamdar Shaikh)  
 D.G.M. - Sales