

Customer Code : **12038**  
 Customer Name : **Cummins Diethelm Limited**  
 Address : 1696 New Petchburi Road  
 Huaykhwang, Bangkok  
 Thailand 10310

Test code: 804

Lube System Capacity : 7 Liters

Unit ID Number : **ZD30T004171**

Unit Type : Engine Diesel  
 Unit Make : NISSAN  
 Unit Model : (not given)  
 Oil type / Viscosity : SAE 20W 50

Site Name :  
 Location :

Overall Condition Rating

Wear Condition	ACTION	Contamination

### Recommendations and Notes

Unable to provide accurate data interpretation without new oil baseline data. Please submit sample of this type of new oil.  
 Note viscosity is severely lower than normal limits.  
 Recommend change oil and flush system with clean oil to remove contamination, if the oil from this sample is still in use in this component.

SJ / Andy Sitton

Condition History		Current Sample			Previous Sample		Alarm Limit Range																																
		Wear	Oil	Cont.			Limit Name (Equipment / Oil) :																																
							Engine Diesel Nissan 20w50																																
<b>FocusLab ID</b>		108166																																					
<b>Date sampled</b>		28-Nov-08																																					
<b>Hours on Oil</b>		5000 kms																																					
<b>Hours on Unit</b>		334720 kms																																					
<b>Bottle ID</b>		888088																																					
Wear Condition							RDE fine					RFS coarse																											
Wear Element	Method	Unit	RDE fine	RFS coarse																																			
Iron	D-6595	PPM	9.7	22.4 <span style="color: red;">C</span>																																			
Chromium	D-6595	PPM	0.1	0.3																																			
Lead	D-6595	PPM	0.0	0.0																																			
Copper	D-6595	PPM	0.9	1.5 <span style="color: red;">C</span>																																			
Tin	D-6595	PPM	0.0	0.0																																			
Aluminum	D-6595	PPM	2.0	6.6																																			
Nickel	D-6595	PPM	0.0	0.3																																			
Silver	D-6595	PPM	0.0	0.1																																			
Molybdenum	D-6595	PPM	61.2	13.6																																			
Titanium	D-6595	PPM	0.0	0.0																																			
Oil Condition							New Oil					L-Action					L-Caution					U-Caution					U-Action												
Viscosity @ 40 °C	D-445	cSt																																					
Viscosity @ 100 °C	D-445	cSt	10.8 <span style="color: red;">A</span>							19.1					<16.2					<17.2					>20.1					>21									
Oxidation	FTIR	Abs	6.6																						>14.1					>16.2									
Nitration	FTIR	Abs	5.6																						>10.2					>12.3									
TAN	D-974	mg KOH/g.																																					
TBN	D-4739	mg KOH/g.	6.9																											<2					<4.65				
Contamination							New Oil					U-Caution					U-Action																						
Water	FTIR	% (Wt.)	0.068																																				
Fuel	SAW	% (Wt.)	0.10																																				
Glycol	FTIR	Abs	0																																				
Soot	FTIR	% (Wt.)	0.43																																				
Sodium	D-6595	PPM	245																																				
Silicon	D-6595	PPM	15.6	17.5 <span style="color: red;">C</span>																																			
Additive Element							New Oil					RDE fine					RFS coarse																						
Boron	D-6595	PPM	1																																				
Magnesium	D-6595	PPM	15																																				
Calcium	D-6595	PPM	2522																																				
Barium	D-6595	PPM	0																																				
Phosphorus	D-6595	PPM	1043																																				
Zinc	D-6595	PPM	1217	391																																			
Additional Test							New Oil					L-Action					L-Caution					U-Caution					U-Action												
Flash Point	D-3828	°C																																					
Viscosity Index	D-2270																																						
Other																																							

Note: Alarm Limits are variable and dependent upon dataset size and to be used as general guideline.

No Sign or N : NORMAL , C or : CAUTION ( first level warning limit ) , A or : ACTION required ( second level warning limit )

U-Caution : Upper CAUTION Level      L-Caution : Lower CAUTION Level      First level warning limit in Upper level and/or Lower level

U-Action : Upper ACTION required Level      L-Action : Lower ACTION required Level      Second level warning limit in Upper level and/or Lower level

Accuracy of interpretation and recommendation are based on representatives sample and information supplied.      No warranty is expressed or implied for this report.