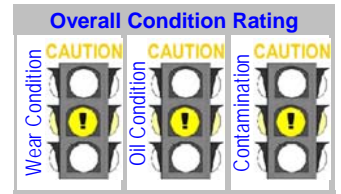


Customer Code : **8888**  
 Customer Name : **ABC Manufacturing Co.,Ltd**  
 Address : 123 Sukhumvit Road , Map Ta Phut  
 Rayong 21150

Unit ID Number : **37153472 Pamok I Engine**

Unit Type : Engine Diesel  
 Unit Make : CUMMINS  
 Unit Model : KTA 19 C  
 Oil type / Viscosity : CALTEX DELO 400 15W40  
 Site Name :  
 Location :



Test code : 804  
 Lube System Capacity : 42 Liters

### Recommendations and Notes

Boron may indicate cooling system leak (leaking oil cooler, head gaskets, o-rings, etc.).  
 Note abnormal wear metals.  
 Oil condition tests indicate that the oil is near the end of its useful service life.  
 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.

WC / Andy Sitton

Condition History		Current Sample			Previous Sample			Alarm Limit Range					
		Wear	Oil	Cont.	Wear	Oil	Cont.	Limit Name (Equipment / Oil) : Engine Diesel Cummins Delo 15W40					
<b>FocusLab ID</b>	Test Method	Result											
Date sampled													
Hours on Oil													
Hours on Unit													
Bottle ID													
<b>Wear Condition</b>													
Wear Element	Method	Unit	RDE fine	RFS coarse	RDE fine	RFS coarse	RDE fine	RFS coarse	New Oil	RDE fine	RFS coarse		
Iron	D-6595	PPM	37.5 C	9.6 A	25.6	27.3 A	37.0 C	24.1 A	0	>35	>58		
Chromium	D-6595	PPM	4.4	1.0 C	2.5	2.3 A	5.0 C	0.6	0	>5	>9		
Lead	D-6595	PPM	14.4	0.0	3.7	8.3 A	4.5	10.2 A	0	>15	>25		
Copper	D-6595	PPM	4.0	0.4	5.1	1.0	4.5	0.7	0	>40	>65		
Tin	D-6595	PPM	0.8	4.3 A	0.0	15.7 A	1.1 C	2.5 C	0	>1	>2		
Aluminum	D-6595	PPM	4.7	0.0	3.4	10.0 A	5.5	6.0 A	0	>7	>13		
Nickel	D-6595	PPM	0.3	0.0	0.0	0.8	0.3	0.0	0	>2	>4		
Silver	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	0.0	0	>2	>4		
Molybdenum	D-6595	PPM	235.0	42.5	190.4	87.4	239.1	26.7	100				
Titanium	D-6595	PPM	0.0	0.0	0.0	0.5	0.0	0.0					
<b>Oil Condition</b>													
Viscosity @ 40 °C	D-445	cSt							New Oil	L-Action	L-Caution	U-Caution	U-Action
Viscosity @ 100 °C	D-445	cSt	17.2 A				16.7 A	16.7 A	14.8	<12.6	<13.3	>15.5	>16.3
Oxidation	FTIR	Abs	25.1 A				19.2 A	22.2 A	8.3			>15	>17
Nitration	FTIR	Abs	14.1 C				11.6 C	13.0 C	7.1			>11	>15
TAN	D-974	mg KOH/g.							7.3	<2	<4		
TBN	D-4739	mg KOH/g.	5.9				7.8	6.6				U-Caution	U-Action
<b>Contamination</b>													
Water	FTIR	% (Wt.)	0.093				0.085	0.082	0.035			>0.1	>0.18
Fuel	SAW	% (Wt.)	0.10				0.10	0.10				>3	>5
Glycol	FTIR	Abs	0				0	0				>0.9	>1.6
Soot	FTIR	% (Wt.)	0.67				0.48	0.52	0.00				
Sodium	D-6595	PPM	15				9	11	3	RDE fine		RFS coarse	
Silicon	D-6595	PPM	10.6	1.4	7.9	7.5	13.7	5.3	10	>15	>20	>9	>15
<b>Additive Element</b>													
Boron	D-6595	PPM	57 A				50 A	47 A	1			>10	>20
Magnesium	D-6595	PPM	23				21	25	20				
Calcium	D-6595	PPM	4569				3894	3924	3300				
Barium	D-6595	PPM	0				0	0	0				
Phosphorus	D-6595	PPM	1220				1165	1237	900				
Zinc	D-6595	PPM	1702	353	1349	581	1585	229	1000				
<b>Additional Test</b>													
Flash Point	D-3828	°C							New Oil	L-Action	L-Caution	U-Caution	U-Action
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 **C** : CAUTION ( first level warning limit ) , **A** or **A** : 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.

Customer Code : **8888**

Unit ID Number : **37153472 Pamok I Engine**

Customer Name : **ABC Manufacturing Co.,Ltd**

Unit Type : Engine Diesel

Address : 123 Sukhumvit Road , Map Ta Phut  
Rayong 21150

Unit Make : CUMMINS

Unit Model : KTA 19 C

Oil type / Viscosity : CALTEX DELO 400 15W40

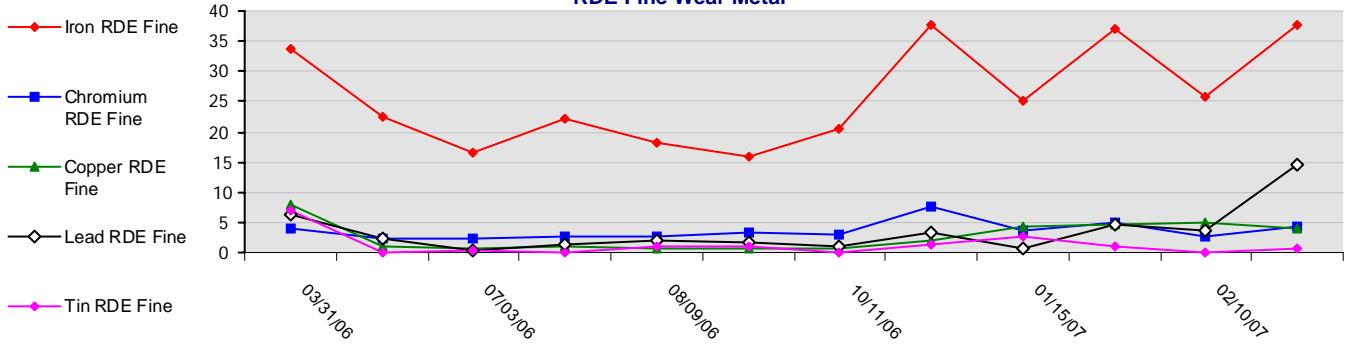
Site Name :

Lube System Capacity : 42 Liters

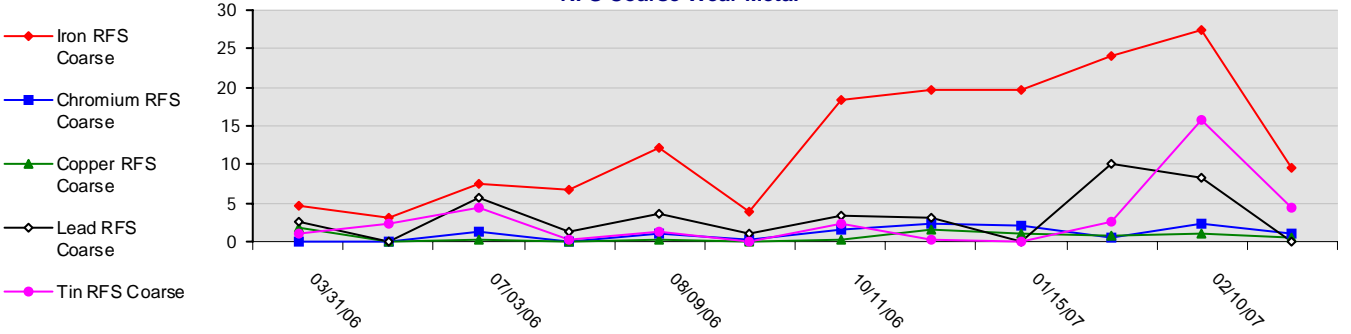
Location :

### Wear Condition

#### RDE Fine Wear Metal

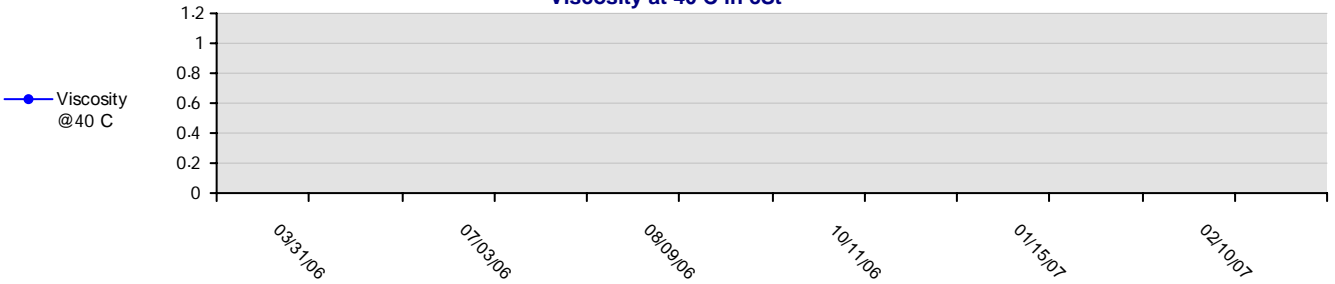


#### RFS Coarse Wear Metal

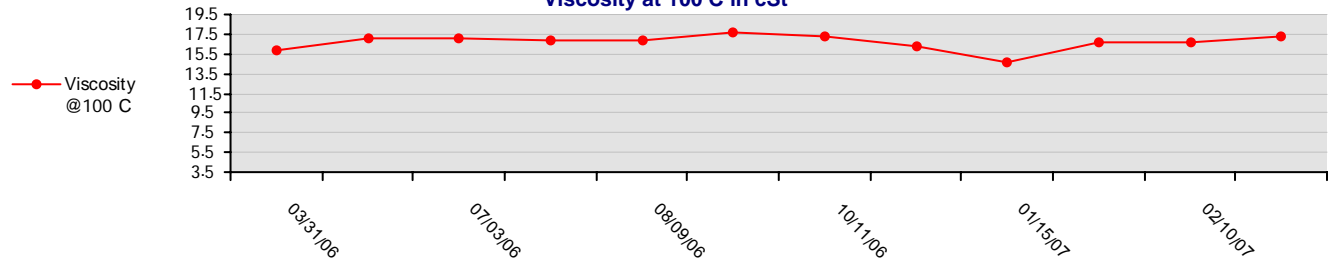


### Oil Condition

#### Viscosity at 40 C in cSt



#### Viscosity at 100 C in cSt



Customer Code : 8888

Unit ID Number : 37153472 Pamok I Engine

Customer Name : ABC Manufacturing Co.,Ltd

Unit Type : Engine Diesel

Address : 123 Sukhumvit Road , Map Ta Phut Rayong 21150

Unit Make : CUMMINS

Unit Model : KTA 19 C

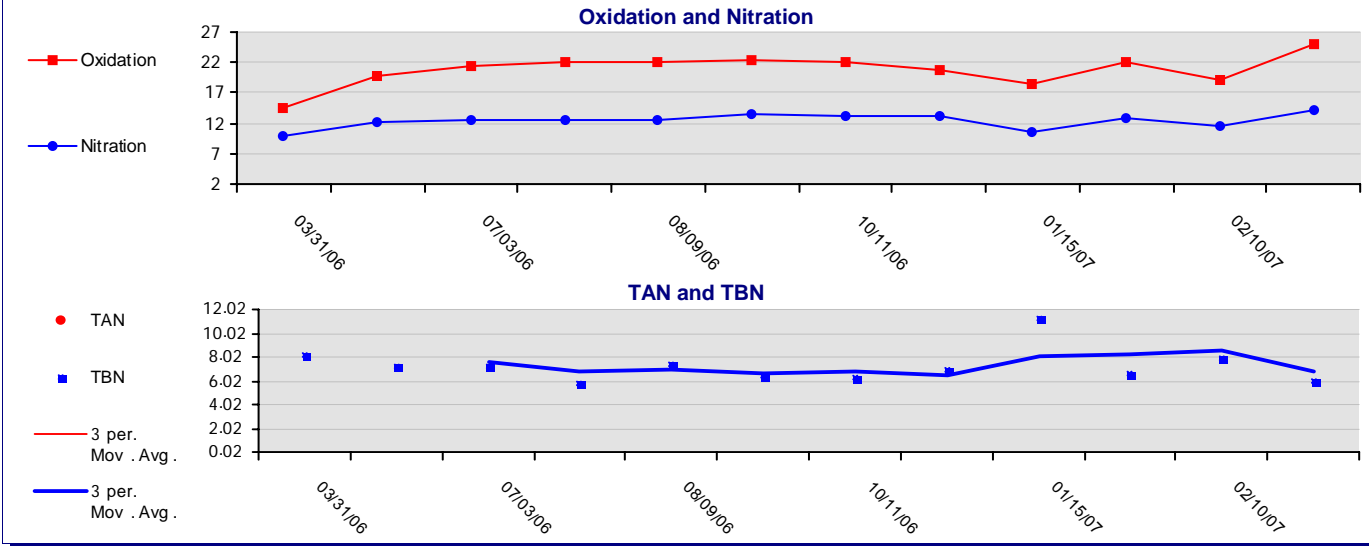
Oil type / Viscosity : CALTEX DELO 400 15W40

Site Name :

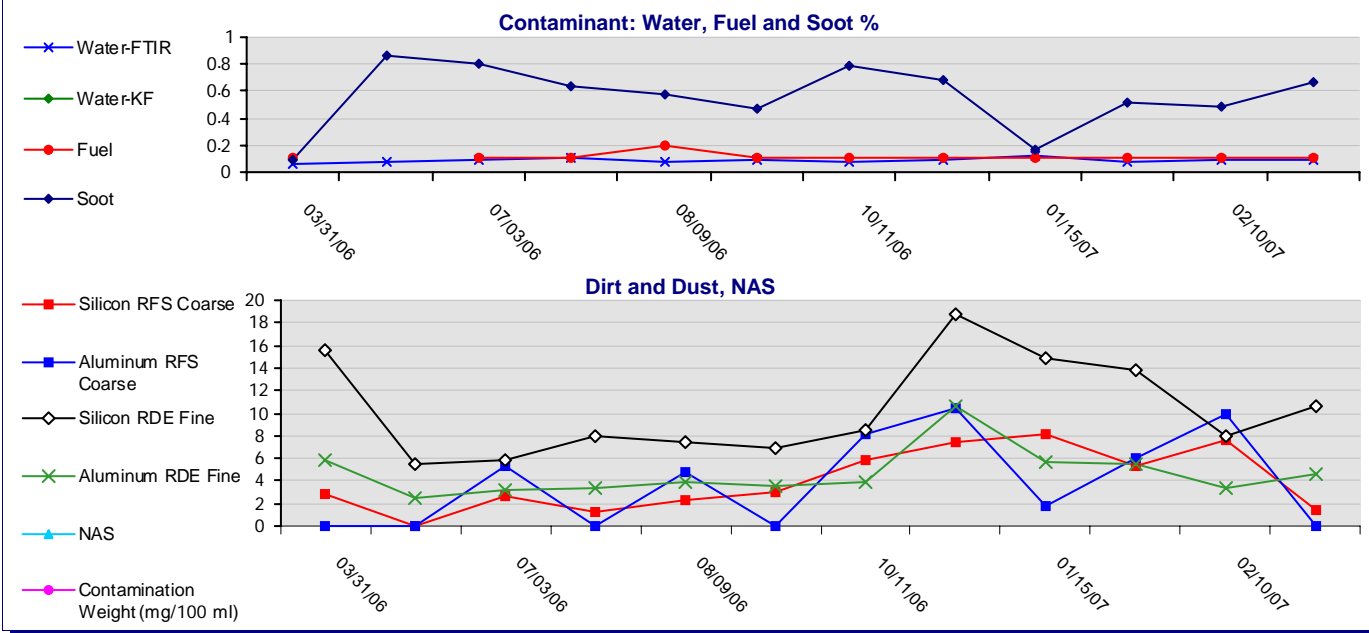
Lube System Capacity : 42 Liters

Location :

### Oil Condition



### Contamination



### Others

