

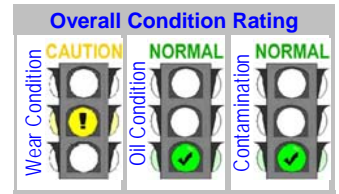
Customer Code : **8888**
 Customer Name : **ABC Manufacturing Co.,Ltd**
 Address : 123 Sukhumvit Road , Map Ta Phut
 Rayong 21150

Unit ID Number : **BWK Crane Ball Ring**

Unit Type : Bearing General
 Unit Make : ROTEX
 Unit Model : (not given)
 Oil type / Viscosity : CALTEX EP2
 Site Name :
 Location :

Test code : 821

Lube System Capacity :



Recommendations and Notes

Please note comments on the following Ferrogram / Filtergram page.
 Greased area condition appears to be in fair to poor condition, when compared to the other samples submitted.
 Continue routine sampling interval.

WC / Andy Sitton

			Current Sample			Previous Sample			Alarm Limit Range						
Condition History			Wear	Oil	Cont.	Wear	Oil	Cont.	Wear	Oil	Cont.	Limit Name (Equipment / Oil) : Bearing Grease General			
FocusLab ID Date sampled Hours on Oil Hours on Unit Bottle ID			C	N	N	N	N	N	N	N	N				
Test Method Result			70582			65300			64103						
			06-Feb-07			21-Oct-06			16-Sep-06						
			Not Given			Not Given			Not Available						
			1031			Not Given			Not Available						
			857094			848741			848996						
Wear Condition												New Oil			
Wear Element	Method	Unit	RDE fine	RFS coarse	RDE fine	RFS coarse	RDE fine	RFS coarse	RDE fine	RFS coarse		U-Caution	U-Action	U-Caution	U-Action
Iron	D-6595	PPM	623.5 C	1016.1	265.1	731.8	133.3	269.5				>500	>850	>1500	>2500
Chromium	D-6595	PPM	9.5	8.6	3.9	6.3	2.3	0.0				>10	>15	>10	>15
Lead	D-6595	PPM	3.0	5.3	2.4	11.2 C	0.3	6.7				>10	>15	>15	>20
Copper	D-6595	PPM	5.3 C	1.0	2.0	0.8	1.0	0.5				>5	>10	>5	>10
Tin	D-6595	PPM	2.5	10.3 A	1.8	10.4 A	0.5	6.8 C				>5	>10	>5	>10
Aluminum	D-6595	PPM	4.8	3.3	2.2	0.0	1.3	0.0				>15	>25	>40	>60
Nickel	D-6595	PPM	8.8	7.1	2.8	0.1	1.0	0.0				>10	>15	>10	>20
Silver	D-6595	PPM	0.3	0.4	0.0	0.0	0.0	0.0							
Molybdenum	D-6595	PPM	7.8	26.2	2.5	4.9	1.3	0.0							
Titanium	D-6595	PPM	1.3	3.1	0.1	0.0	0.0	0.0							
Oil Condition												New Oil			
Viscosity @ 40 °C	D-445	cSt										L-Action	L-Caution	U-Caution	U-Action
Viscosity @ 100 °C	D-445	cSt													
Oxidation	FTIR	Abs													
Nitration	FTIR	Abs													
TAN	D-974	mg KOH/g													
TBN	D-4739	mg KOH/g													
Contamination												New Oil			
Water	FTIR	% (Wt.)	2.800		2.900		1.700							>7.7	>11.3
Fuel	SAW	% (Wt.)													
Glycol	FTIR	Abs													
Soot	FTIR	% (Wt.)													
Sodium	D-6595	PPM	100		31		22								
Silicon	D-6595	PPM	17.3	31.3	5.2	9.2	3.3	2.5						>75	>100
Additive Element												New Oil			
Boron	D-6595	PPM	1		0		0								
Magnesium	D-6595	PPM	13		4		2								
Calcium	D-6595	PPM	57		28		25								
Barium	D-6595	PPM	28		0		0								
Phosphorus	D-6595	PPM	1694		970		2334								
Zinc	D-6595	PPM	2890	5960	962	2805	2060	2728							
Additional Test												New Oil			
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 **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.

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Overall Condition Rating

Wear Condition	Oil Condition	Contamination

Test code : 821

Oil type / Viscosity : CALTEX EP2

Lube System Capacity :

Site Name :
 Location :

	Current Sample		Previous Sample		 Typical Normal Ferrogram							
	FocusLab ID	70582	65300	64103								
Date sampled	06-Feb-07	21-Oct-06	16-Sep-06									
Hours on Oil	Not Given	Not Given	Not Available									
Hours on Unit	1031	Not Given	Not Available									
Bottle ID	857094	848741	848996									
Volume of Sample Used	ml		ml									
Image of Wear & Contaminants Magnification 40X												
Image of Wear & Contaminants Magnification 100X												
Image of Wear & Contaminants Magnification 400X												
Wear & Contaminants Particles	%Rating	Size (Micron)	Particle Type	%Rating	Size (Micron)	Particle Type	%Rating	Size (Micron)	Particle Type	%Rating	Size (Micron)	Particle Type
Normal Rubbing Wear												
Fatigue Wear	8	80-100	F	1	80-100	F						
Fatigue Sphere												
Sliding Wear												
Cutting Wear												
Black Oxides	2	40-120	F	6	40-120	F						
Red Oxides												
Corrosive Wear				3	20-40	F						
Dirt and Dust												

Recommendations and Notes

Fatigue wear appears to be one of the major abnormal wear mode in progress.
 Black oxides noted in ferrogram.

%Rating : Percent area covered by wear debris particles or contaminant particles
 Size : Size in micron (0.001 mm) unit of wear debris particles or contaminant particles
F : Ferrous Wear Particle, **N** : Non-ferrous Wear Particle, **C** : Contaminant Particle

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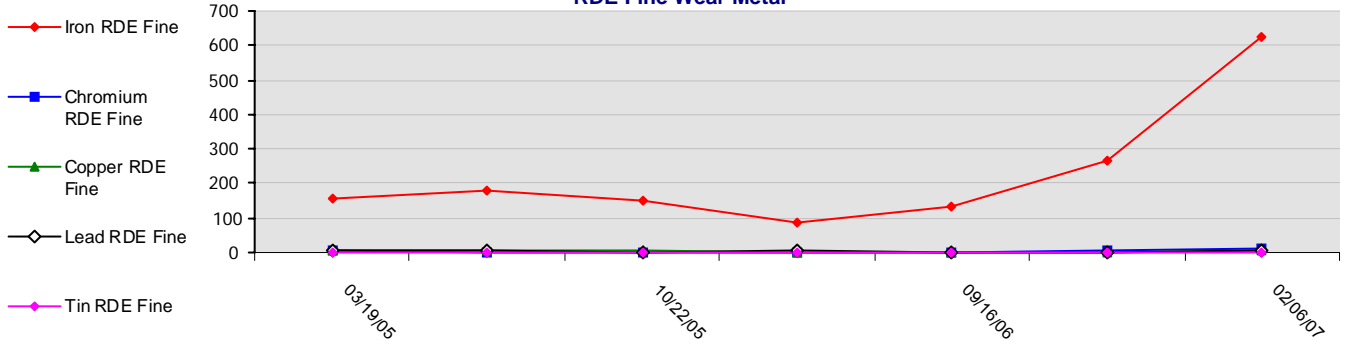
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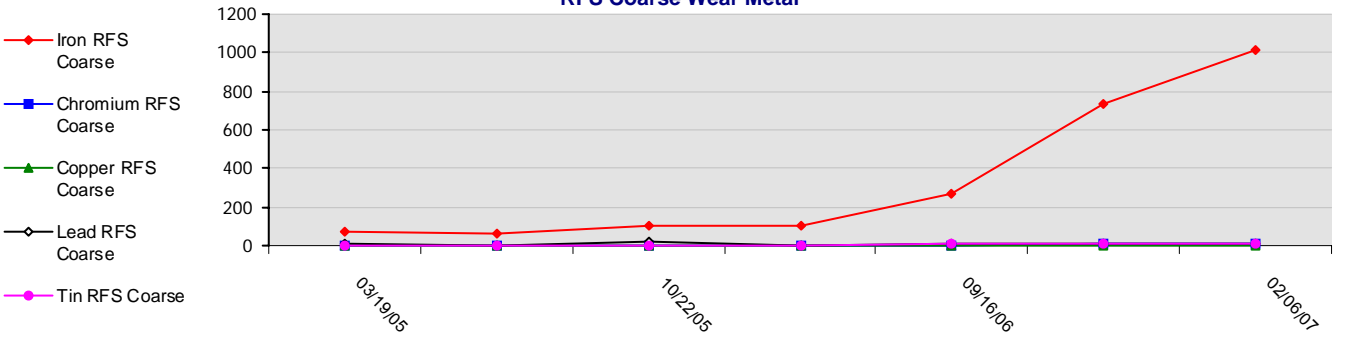
Lube System Capacity :

Wear Condition

RDE Fine Wear Metal

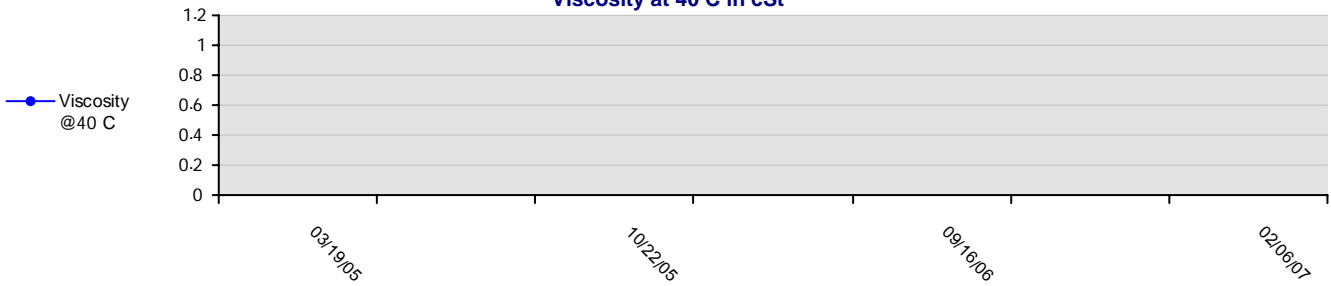


RFS Coarse Wear Metal

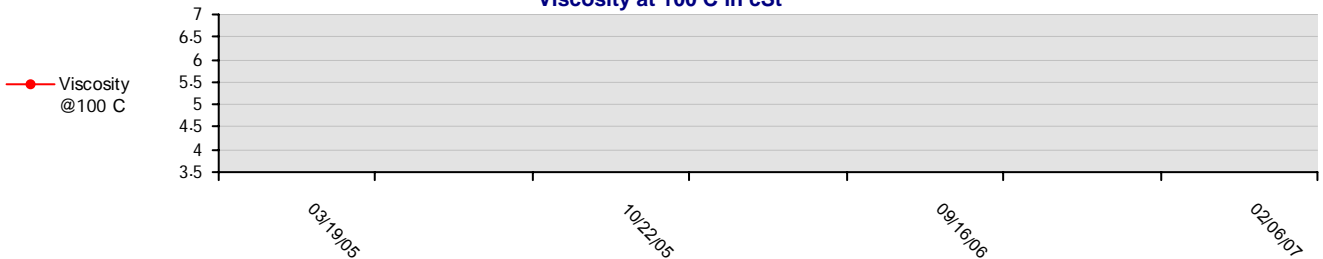


Oil Condition

Viscosity at 40 C in cSt



Viscosity at 100 C in cSt



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