

C Code : **25040**
 U Name :
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 O
 M Address : 29th - 31st Floor, Shinawatra Tower 3,
 E 1010 Viphavadi Rangsit Road,
 R Chatuchak, Bangkok 10900
 Site :
 Location :
 Test code : 804

Unit ID : **WP D Diesel Gen C**
 Unit Type : Engine Diesel
 Unit Make : CUMMINS
 Unit Model : KTA50 G9
 Oil type / Viscosity : VALVOLINE PREMIUM BLUE 15W40
 Oil System Capacity : 180 Liters

Overall Condition Rating

Notes (Finding, Evaluation, Interpretation, Suggestion and Recommendation)

Note abnormal wear metals.
 Oil condition tests indicate that the oil is slightly degraded.
 Trace amount of soot level.
 * Additive levels may be affected from previous oil type.
 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.

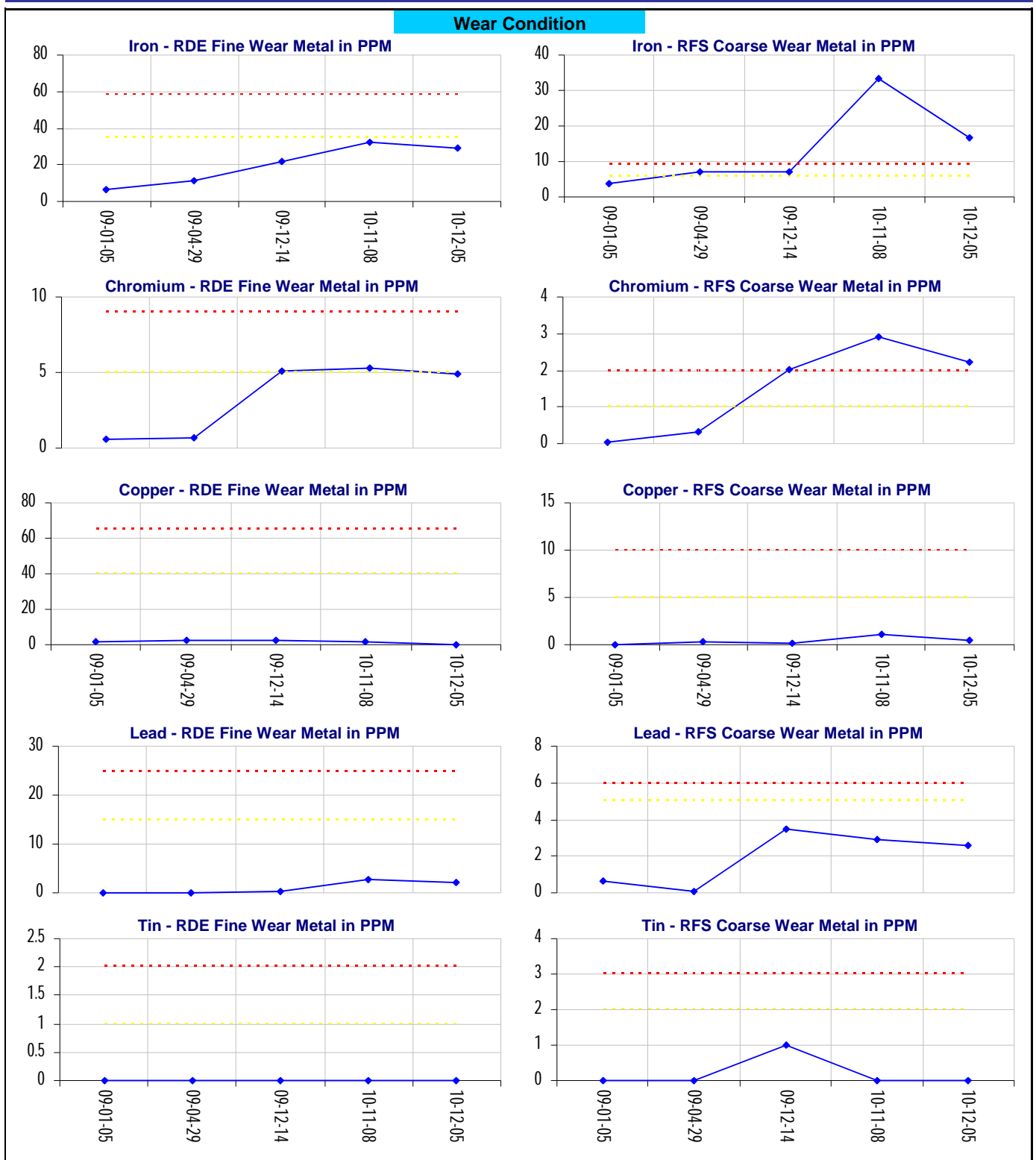
Somchai J / Andy Sitton

			Current Sample			Previous Sample			Baseline and Alarm Limit							
Condition History			Wear	Oil	Cont.	Wear	Oil	Cont.	Wear	Oil	Cont.	Alarm Limit				
Lab ID			150378			150038			127499			Alarm Limit Matrix -Set Name (Equipment type / oil type)				
Bottle ID			924296			915218			895315			Engine Diesel Cummins				
Date Sampled			05-Dec-10			08-Nov-10			14-Dec-09			Valvoline Premium Blue				
Oil Hours (Kms)			328			412			Not Given			15W40(Pearl Oil)				
Unit Hours (Kms)			15249			14681			8803							
Oil Added (Liters)																
Filters Hours (Kms)			328													
Wear Condition												The New Oil (TNO)	RDE fine		RFS coarse	
Wear Element	Method	Unit	RDE fine	RFS coarse	RDE fine	RFS coarse	RDE fine	RFS coarse	RDE fine	RFS coarse		U-Caution	U-Warning	U-Caution	U-Warning	
Iron	D-6595	PPM	29.1	16.7 W	32.3	33.3 W	22.2	7.3 C	0	0	0	>35	>58	>6	>9	
Chromium	D-6595	PPM	4.9	2.2 W	5.3 C	2.9 W	5.1 C	2.0 W	0	0	0	>5	>9	>1	>2	
Lead	D-6595	PPM	2.2	2.6	2.7	2.9	0.3	3.5	0	0	0	>15	>25	>5	>6	
Copper	D-6595	PPM	0.4	0.4	1.3	1.1	2.3	0.2	0	0	0	>40	>65	>5	>10	
Tin	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	1.0	0	0	0	>1	>2	>2	>3	
Aluminum	D-6595	PPM	1.9	2.5 C	2.5	1.9	2.1	2.1 C	2	2	2	>7	>13	>2	>4	
Nickel	D-6595	PPM	0.5	0.0	0.1	0.0	0.0	0.0	0	0	0	>2	>4	>1	>2	
Silver	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0					
Molybdenum	D-6595	PPM	102.2	40.4	97.3	33.1	0.0	0.8	95	95	95					
Titanium	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0					
Oil Condition												TNO	L-Warning	L-Caution	U-Caution	U-Warning
Viscosity @ 40°C	D-445	cSt										14.7	<12.5	<13.2	>16.2	>16.9
Viscosity @ 100°C	D-445	cSt	15.2		14.5		15.3 C					12.7		>15.9	>19	
Oxidation	FTIR	Abs	16.9 C		16.5 C		4.9					3.8		>7.6	>8.5	
Nitration	FTIR	Abs	9.3 W		9.3 W		5.7									
TAN	D-974	mg KOH/g.														
TBN	D-4739	mg KOH/g.	9.1		10.6		10.4					11.5	<2.5	<5.7		
Contamination												TNO			U-Caution	U-Warning
Water	FTIR	% (Wt.)	0.060		0.066		0.043					0.070			>0.1	>0.5
Fuel	SAW	% (Wt.)	0.10		0.10		0.10								>2.5	>5
Glycol	FTIR	Abs	0		0		0									
Soot	FTIR	% (Wt.)	1.36 C		1.45 C		1.21 C								>0.9	>1.6
Sodium	D-6595	PPM	179 *		260 *		429					8	>25	>28		
Silicon	D-6595	PPM	10.7	3.3	8.1	5.0	5.0	1.7	21	21	21	>30	>35	>9	>15	
Additive Element												TNO				
Boron	D-6595	PPM	71		74		0					126				
Magnesium	D-6595	PPM	27		19		12					26				
Calcium	D-6595	PPM	4119		4067		3820					3143				
Barium	D-6595	PPM	0		0		0					0				
Phosphorus	D-6595	PPM	1509		1481		784					1406				
Zinc	D-6595	PPM	1696	556	1643	405	1238	190	1618	1618	1618					
Additional Test												TNO	L-Warning	L-Caution	U-Caution	U-Warning
Flash Point	D-3828	°C														
Viscosity Index	D-2270															

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) , **W** or **■** : Warning (second level warning limit)
 U-Caution : Upper CAUTION Level L-Caution : Lower CAUTION Level
 U-Warning : Upper WARNING Level L-Warning : Lower WARNING required Level
 Baseline will be data of either "The new oil" or "Reference oil" or "Oil specification".
 Accuracy of interpretation and recommendation are based on representatives sample and information supplied.
 First Level Alarm -Alert Limit in Upper Level and/or Lower Level
 Second Level Alarm -Alert Limit in Upper Level and/or Lower Level
 TNO = The new oil, RO = Reference oil, OS = Oil Specification
 No warranty is expressed or implied for this report.

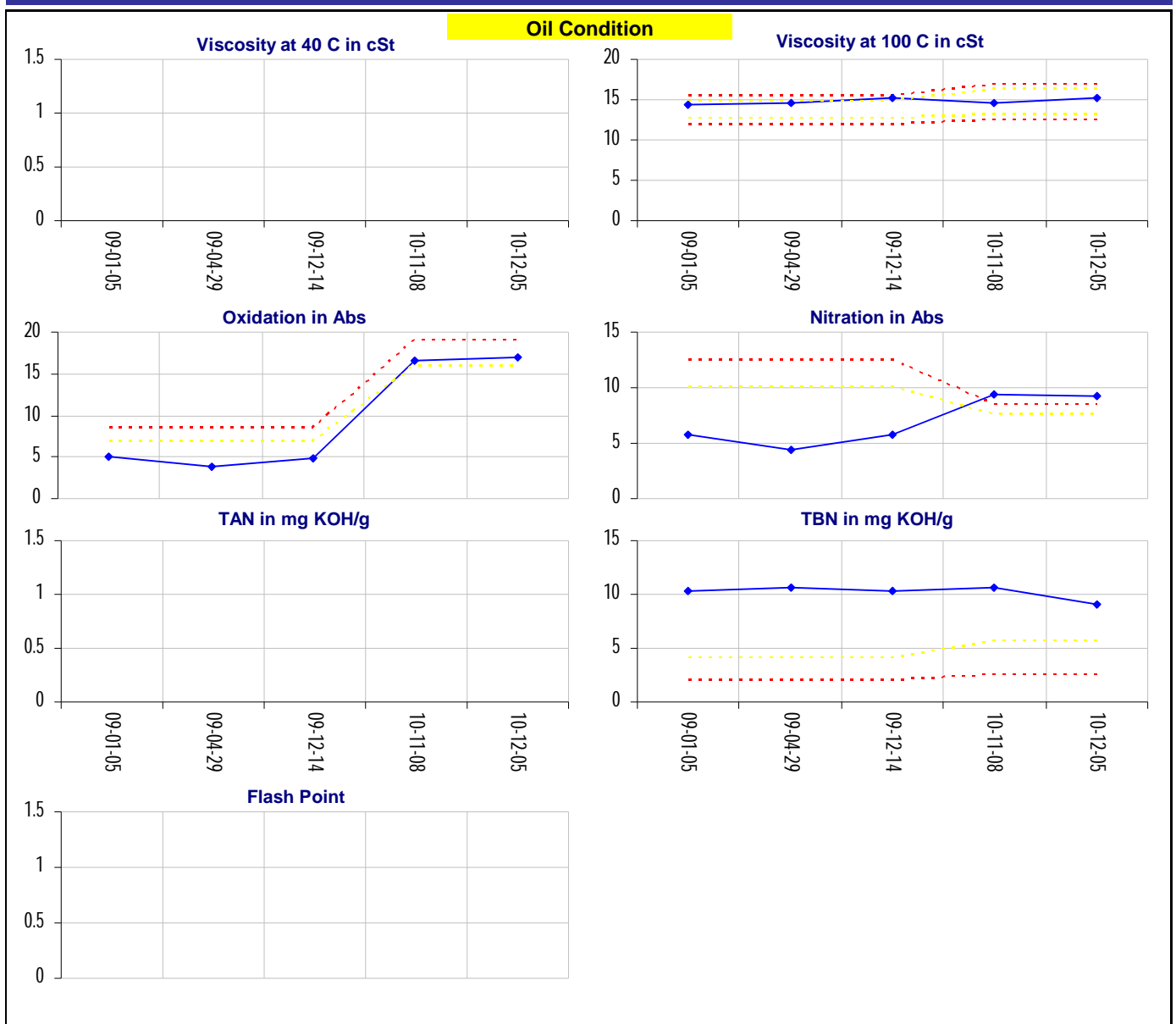
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