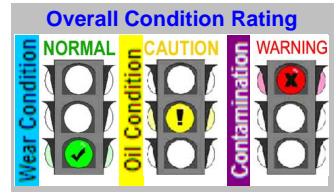


C Code : 29007
 U Name :
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 M 60/19 Moo 3, Mabyangporn
 E Pluak Daeng, Rayong 21140
 R Site :
 Location :
 Test code : 814

Unit ID : **GT 200**
 Unit Type : Engine Turbine Gas
 Unit Make : GENERAL ELECTRIC
 Unit Model : MS6001B PG 6561 NT
 Oil type / Viscosity : SHELL TURBO T32
 Oil System Capacity :



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

Note increase in VsPI, especially the SPI color, which is the insoluble varnish and sludge.
 Contamination levels are becoming worse.
 Additive depletion will compound the contamination problem.

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			Current Sample			Previous Sample			Baseline and Alarm Limit									
Condition History			Wear	Oil	Cont.	Wear	Oil	Cont.	Wear	Oil	Cont.	Alarm Limit						
			(N)	(C)	(W)	(N)	(C)	(N)	(N)	(C)	(N)	Alarm Limit Matrix -Set Name (Equipment type / oil type) Engine Turbine Gas GE Turbo T32 (TNP)						
Lab ID	Test Method	Result										The New Oil (TNO)	RDE fine				RFS coarse	
Bottle ID			151242	918083	918076	144799	918076	142725	918073	142725	918073		142725	U-Caution	U-Warning	U-Caution	U-Warning	
Date Sampled			04-Jan-11	24-Sep-10	25-Aug-10	41469	86092											
Oil Hours (Kms)			45357	42189	41469													
Unit Hours (Kms)			90158	86812	86092													
Oil Added (Liters)																		
Filters Hours (Kms)																		
Wear Condition												RDE fine				RFS coarse		
Wear Element	Method	Unit	RDE fine	RFS coarse	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	0.3	0.2	0.0	0.6	0.1	0.5	0	>2	>4	>4	>6					
Chromium	D-6595	PPM	0.1	0.0	0.2	0.0	0.2	0.2	0	>1	>2	>1	>2					
Lead	D-6595	PPM	0.0	0.0	0.0	1.6	0.0	0.1	0	>1	>2	>4	>6					
Copper	D-6595	PPM	0.6	0.1	0.1	0.2	0.0	0.3	0	>9	>16	>7	>12					
Tin	D-6595	PPM	2.6	0.2	0.5	0.4	0.6	0.7	0	>3	>5	>3	>5					
Aluminum	D-6595	PPM	0.6	0.8	0.0	0.3	0.0	1.2	0	>1	>2	>2	>4					
Nickel	D-6595	PPM	0.0	0.0	0.1	0.4	0.0	0.4	0	>1	>2	>1	>2					
Silver	D-6595	PPM	0.0	0.0	0.0	0.0	2.1	0.0	0									
Molybdenum	D-6595	PPM	0.1	0.0	0.5	0.0	0.0	0.2	0									
Titanium	D-6595	PPM	0.1	0.1	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	33.8	C	34.0	C	34.0	C	32.2	<29	<30.6	>33.8	>35.4					
Viscosity @ 100°C	D-445	cSt																
Oxidation	FTIR	Abs	8.9	C	9.1	C	9.1	C	7.5			>8.5	>9.5					
Nitration	FTIR	Abs	7.6		7.5		7.5		7.2			>8.2	>9.2					
TAN	D-974	mg KOH/g.	0.05		0.07		0.06		0.05			>0.21	>0.33					
TBN	D-4739	mg KOH/g.																
Contamination												TNO						
Water	T-H2O Check™	% (Wt.)	0.013		0.011		0.012		0.019			>0.04	>0.071					
Sodium	D-6595	PPM	0		0		1		0									
Silicon	D-6595	PPM	0.0	0.9	1.3	0.6	1.4	1.0	0	>3	>5	>3	>5					
Additive Element												TNO						
Boron	D-6595	PPM	0		0		0		0									
Magnesium	D-6595	PPM	0		0		0		0									
Calcium	D-6595	PPM	0		0		0		1									
Barium	D-6595	PPM	0		0		0		0									
Phosphorus	D-6595	PPM	0		0		0		0									
Zinc	D-6595	PPM	0	0	0	1	0	1	1									
Additional Test												TNO	U-Caution	U-Warning	U-Caution	U-Warning		
Flash Point	D-3828	°C																
Viscosity Index	D-2270						6.5											

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

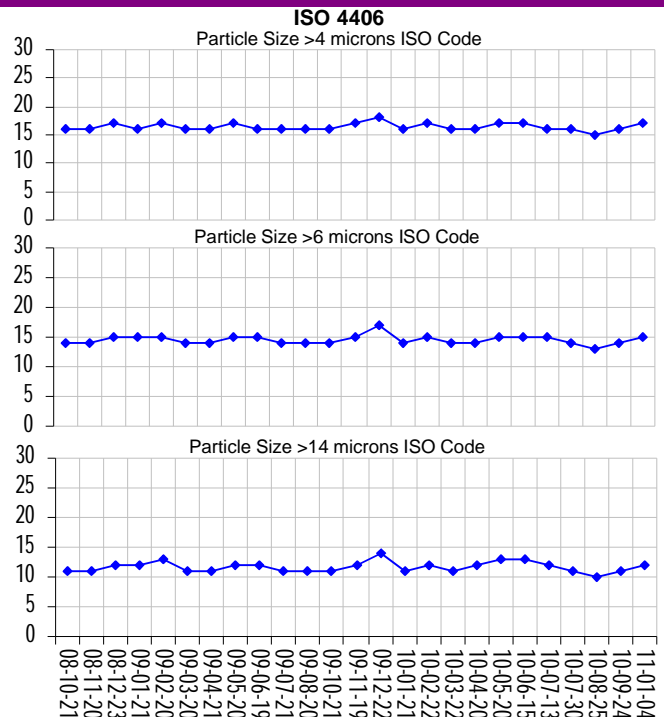
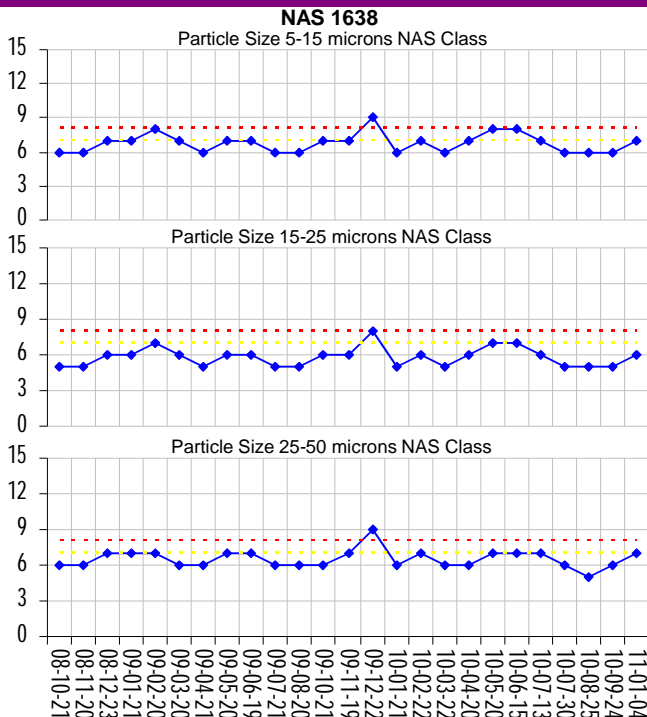
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Unit ID : **GT 200**
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 Unit Make : GENERAL ELECTRIC
 Unit Model : MS6001B PG 6561 NT
 Oil type/ Viscosity : SHELL TURBO T32
 Oil System Capacity :

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

Particle count indicates that oil the cleanliness level is near to the lower limits of acceptability, but is not considered critical at this time.

Lab ID	Current Sample		Previous Sample			Particle Count		Alarm Limit			
	151242	144799	142725			NAS 1638 ISO 4406					
Bottle ID	918083	918076	918073			BASELINE		Alarm Limit			
Date Sampled	04-Jan-11	24-Sep-10	25-Aug-10			Engine Turbine Gas GE Turbo T32 (TNP)					
Oil Hours (Kms)	45357	42189	41469								
Unit Hours (Kms)	90158	86812	86092								
Oil Added (Liters)											
Filters Hours (Kms)											
Contamination											
Particle Count NAS 1638 System Standard											
							U-Caution		U-Warning		
Particle Size Range	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class	Class	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class
Particle Size 5-15 microns	24,700	7 C	15,400	6	8,000	6		>16000	7	>32000	8
Particle Size 15-25 microns	2,200	6	1,400	5	700	5		>2850	7	>5700	8
Particle Size 25-50 microns	700	7	400	6	200	5		>506	7	>1012	8
Particle Size 50-100 microns	<100	6	<100	5	<100	4					
Particle Size >100 microns	<100	4	<100	3	<100	2					
Particle Count ISO 4406:1999 System Standard											
Particle Size Range	No. of Particles / ml.	Class	No. of Particles / ml.	Class	No. of Particles / ml.	Class	Class	No. of Particles / ml.	Class	No. of Particles / ml.	Class
Particle Size > 4 microns	740	17	461	16	240	15					
Particle Size > 6 microns	207	15	129	14	67	13					
Particle Size > 14 microns	29	12	18	11	9	10					
ISO 4406 Class Rating	17/15/12		16/14/11		15/13/10						



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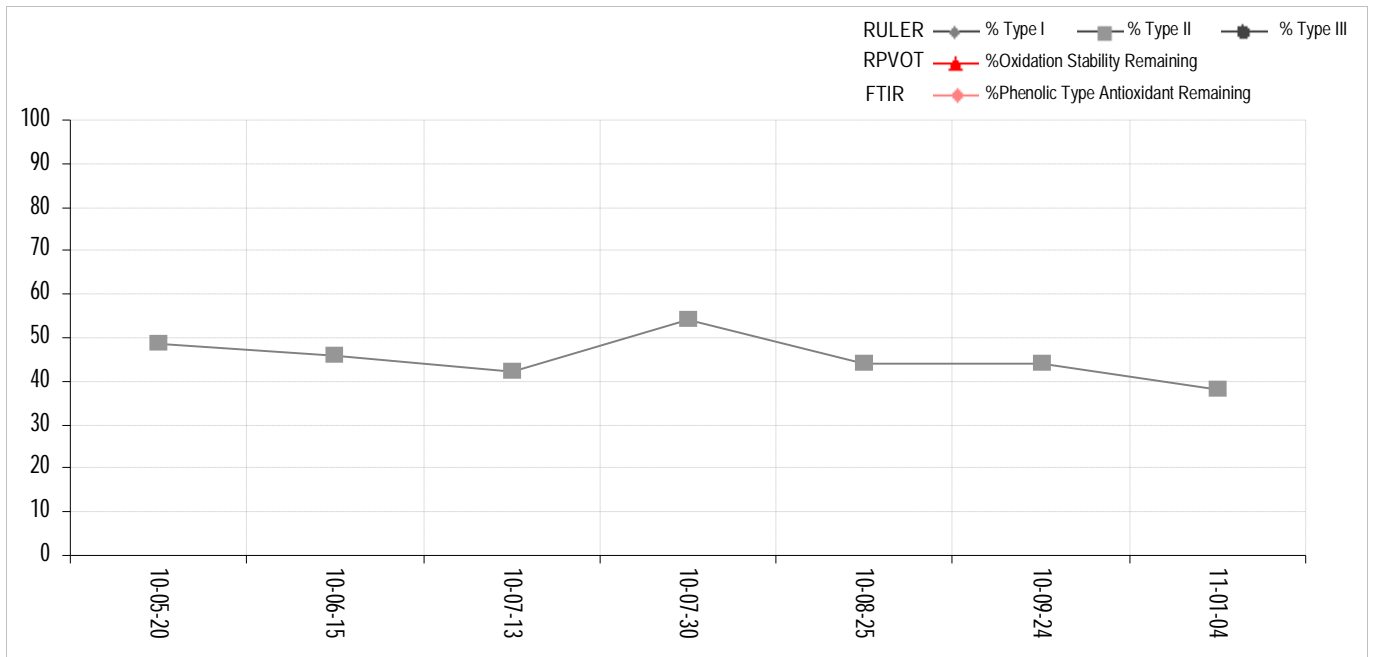
E Q U I P M E N T
Unit ID : **GT 200**
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Oil System Capacity :

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

Note that AO (anit-oxidant) additive depletion is Cautionary (below 50% remaining).

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Lab ID Bottle ID Date Sampled Oil Hours (Kms) Unit Hours (Kms) Oil Added (Liters) Filters Hours (Kms)	Test Method	Result	Current Sample	Previous Sample		RULER™ RPVOT (RBOT) FTIR Based on and referred to ASTM D-4378-0 Alarm Limit based on ASTM D-4378-08
			151242 918083 04-Jan-11 45357 90158	144799 918076 24-Sep-10 42189 86812	142725 918073 25-Aug-10 41469 86092	
Oil Condition						
RULER™(Remaining Useful Life Evaluation Routine)						The New Oil
% Type I Antioxidant Remaining		%	n/p	n/p	n/p	Caution
% Type II Antioxidant Remaining	D-6971-04	%	37.9 C	44	44.2 *	Warning
% Type III Antioxidant Remaining	D-6810-02	%	n/p	n/p	n/p	
RULER Test Solution		Color	Green	Green	Green	
RPVOT (Rotating Pressure Vessel Oxidation Test) or previously known as RBOT						
Oxidation Stability	D-2272	Minutes				Caution
%Oxidation Stability Remaining		%				Warning
FTIR (Fourier Transform Infrared)						
%Phenolic Type Antioxidant Remaining	D-2668	%				Caution



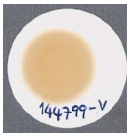

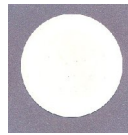
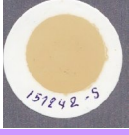
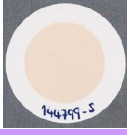




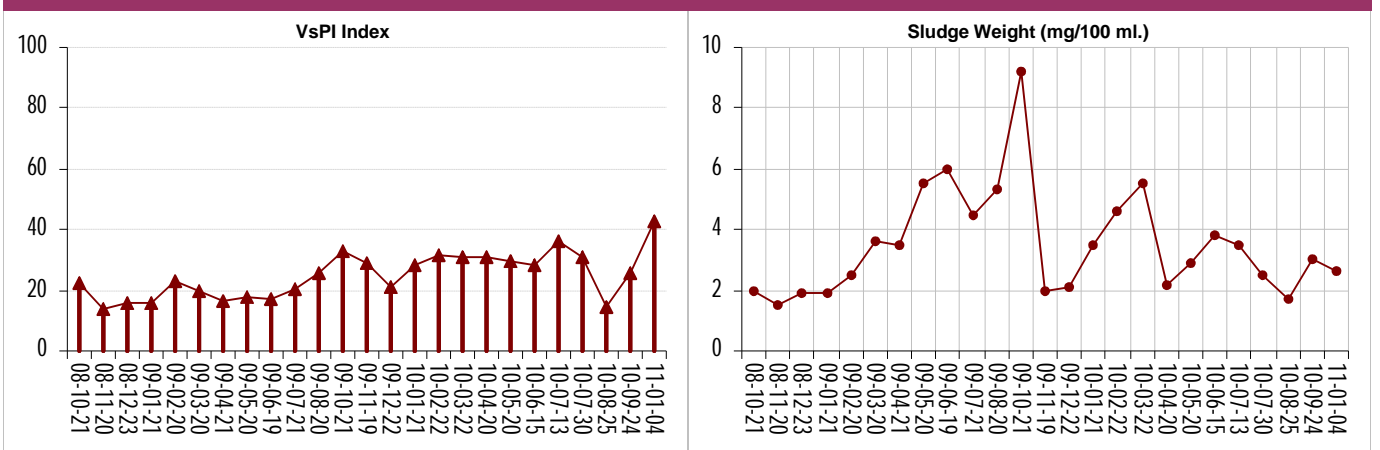
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Notes (Finding, Evaluation, Interpretation, Suggestion and Recommendation)

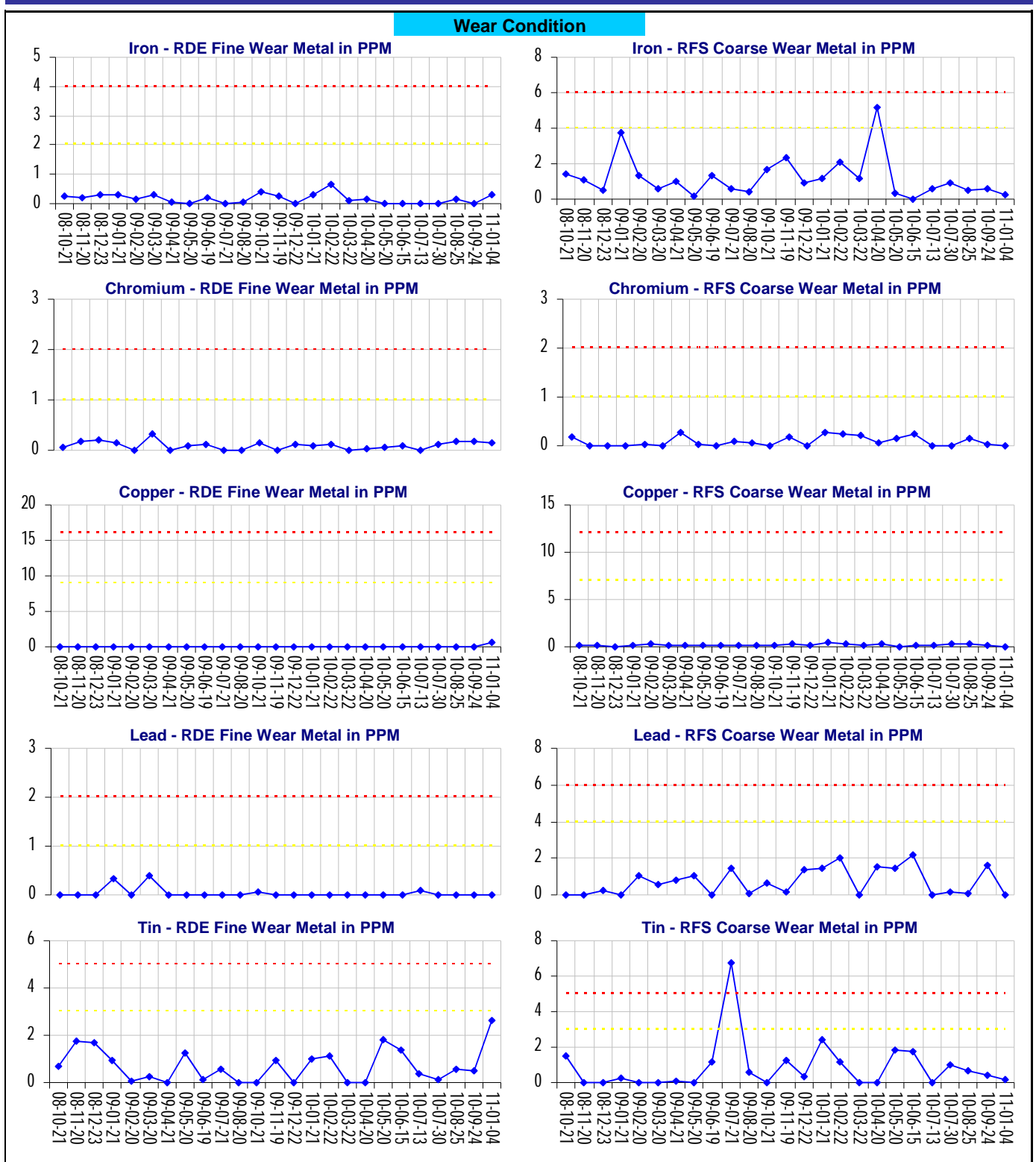
Note increase in VsPI, especially the SPI color, which is the insoluble varnish and sludge.

	Current Sample		Previous Sample		
Lab ID	151242	144799	142725		
Bottle ID	918083	918076	918073		
Date Sampled	04-Jan-11	24-Sep-10	25-Aug-10		
Oil Hours (Kms)	45357	42189	41469		
Unit Hours (Kms)	90158	86812	86092		
Oil Added (Liters)					
Filters Hours (Kms)					
Contamination					
Varnish and Sludge Potential Index™ (VsPI™)					
VPI (Varnish Potential Index) : Soluble Varnish Contamination in Oil					The New Oil
VPI (Varnish Potential Index) Soluble Varnish Contaminant					
VPI Rating	53.5	38.0	18.2		
SPI (Sludge Potential Index) : or MPC test (Membrane Patch Colorimetric Test) : Insoluble Varnish Contamination in Oil					The New Oil
SPI (Sludge Potential Index) Insoluble Varnish Contaminant					
SPI Rating	32.0	13.2	10.3		
Sludge Weight	2.6 mg/100 ml	3.0 mg/100 ml	1.7 mg/100 ml		
Alarm Limit Name Engine Turbine Gas GE Turbo T32 (TNP)					
					Caution Warning
VsPI VsPI = (VPI + SPI) / 2	42.7 W	25.6 C	14.3		>22 >30



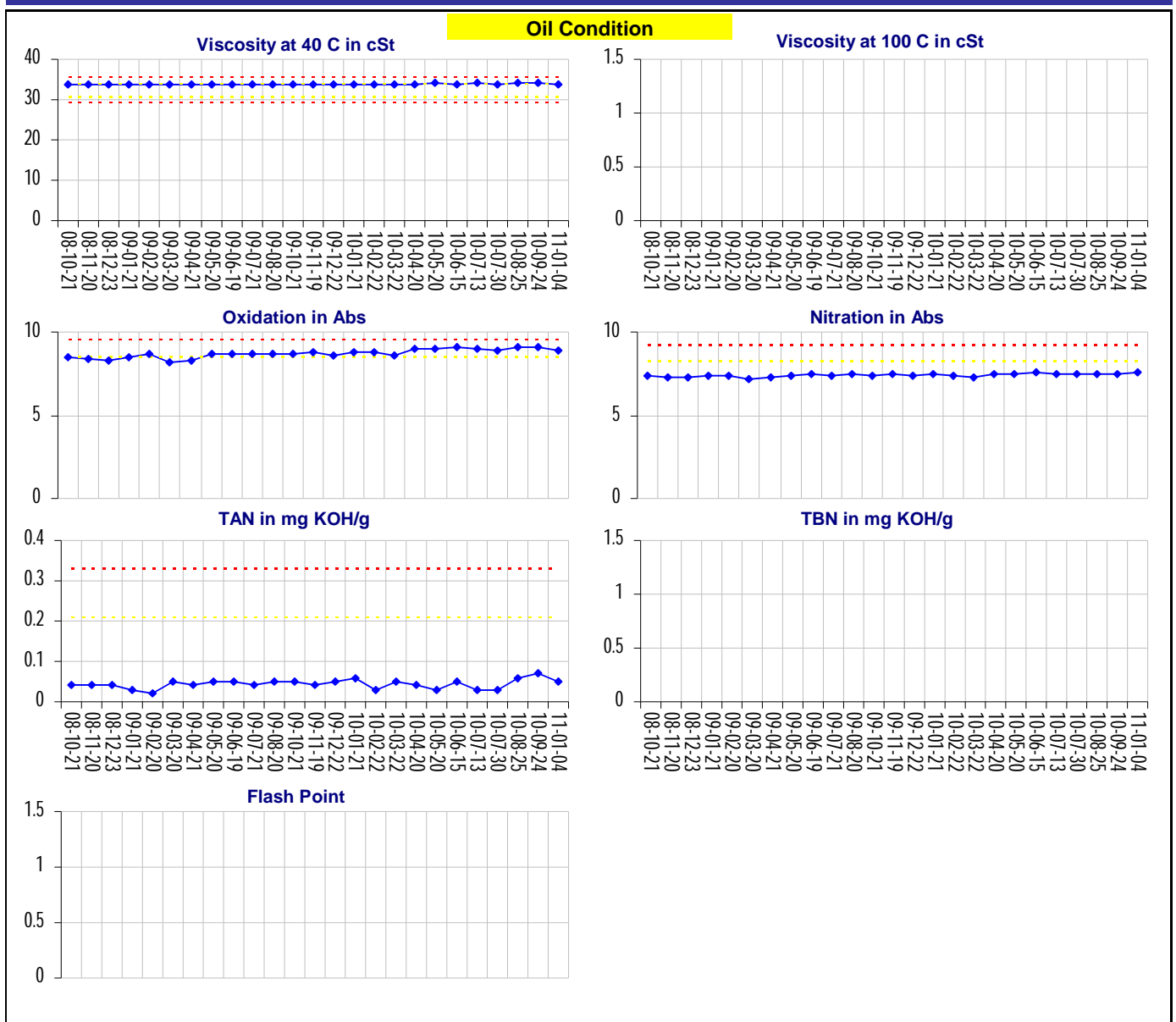
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