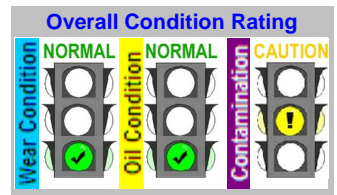


C Code : 29022009
 U Name :
 S
 T
 O Address : c/o ASIA LTD.
 M 335/7 Srinakarin Road,Nongborn, Pravej,
 E Bangkok, Thailand 10250
 R Site :
 Location :
 Test code : 813

Unit ID : **Pfizer 835 After Filter**
 Unit Type : Engine Turbine Gas
 Unit Make : Solar Turbines
 Unit Model : T60 7901S
 Oil type / Viscosity : SHELL TURBO T 32
 Oil System Capacity : 1000 Liters



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

(Engine Exchanged and Oil replaced as new)
 All wear conditions and wear tests appear in normal working range.
 All oil conditions and oil tests appear in normal working range.
 Particle count indicates that oil cleanliness level is near to unacceptable range.
 Note some test values are near to the Alarm Limits, or slightly over the Alarm Limits, but are not considered serious at this time.
 No oil change recommended at this time, oil appears suitable for further use. Continue routine sampling interval.

Wasan C / Andy Siltton

			Current Sample			Previous Sample			Baseline and Alarm Limit						
Condition History			Wear	Oil	Cont.	Wear	Oil	Cont.	Wear	Oil	Cont.	Alarm Limit			
Lab ID			N	N	C	N	N	N	N	N	N	Engine Turbine Gas Solar			
Bottle ID												Mars Turbo T32 (Pfizer)			
Date Sampled												RDE fine RFS coarse			
Oil Hours (Kms)												U-Caution	U-Warning	U-Caution	U-Warning
Unit Hours (Kms)															
Oil Added (Liters)															
Filters Hours (Kms)															
Wear Element	Method	Unit	RDE fine	RFS coarse	RDE fine	RFS coarse	RDE fine	RFS coarse	Reference Oil (RO)	U-Caution	U-Warning	U-Caution	U-Warning		
Iron	D-6595	PPM	0.0	0.9	0.0	0.4	0.0	0.3	2	>1	>2	>2	>4		
Chromium	D-6595	PPM	0.0	0.0	0.3	0.3	0.2	0.2	0	>1	>2	>1	>2		
Lead	D-6595	PPM	0.0	1.1	0.4	1.8	0.0	1.7	0	>1	>2	>3	>5		
Copper	D-6595	PPM	0.0	0.1	0.0	0.0	0.0	0.1	0	>1	>2	>1	>2		
Tin	D-6595	PPM	0.0	0.6	0.7	1.0 C	0.0	2.1 W	1	>2	>3	>1	>2		
Aluminum	D-6595	PPM	0.0	1.1 C	0.3	0.8	0.1	1.0	0	>1	>2	>1	>2		
Nickel	D-6595	PPM	0.0	0.0	0.0	0.2	0.0	0.2	0	>1	>2	>1	>2		
Silver	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	0.0	0						
Molybdenum	D-6595	PPM	0.0	0.2	0.0	0.1	0.0	0.0	0						
Titanium	D-6595	PPM	0.0	0.2	0.0	0.4	0.0	0.0	0						
Oil Condition			RO	L-Warning	L-Caution	U-Caution	U-Warning								
Viscosity @ 40°C	D-445	cSt	32.7		32.2 C	32.0 C	34.2	<30.78	<32.49	>35.91	>37.62				
Viscosity @ 100°C	D-445	cSt													
Oxidation	FTIR	Abs	8.0		9.6	8.5 *	7.5		>11.3	>13.1					
Nitration	FTIR	Abs	7.5		7.5	7.1 *	7.2		>8.2	>9.2					
TAN	D-974	mg KOH/g	0.06		0.07	0.07	0.05		>0.2	>0.3					
TBN	D-4739	mg KOH/g													
Contamination			RO	U-Caution	U-Warning										
Water	T-H2O CheckTM	% (Wt.)	0.013		0.021	0.016	0.010		>0.05	>0.08					
Sodium	D-6595	PPM	0		0	0	0								
Silicon	D-6595	PPM	0.0	0.8	0.3	0.9	0.8	0.3	1	>4	>6	>3	>6		
Additive Element			RO	U-Caution	U-Warning										
Boron	D-6595	PPM	0		0	0	0								
Magnesium	D-6595	PPM	0		0	0	0								
Calcium	D-6595	PPM	0		0	0	2								
Barium	D-6595	PPM	0		0	0	0								
Phosphorus	D-6595	PPM	0		0	6	10								
Zinc	D-6595	PPM	0	1	0	0	0	0							
Additional Test			RO	U-Caution	U-Warning	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 **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.

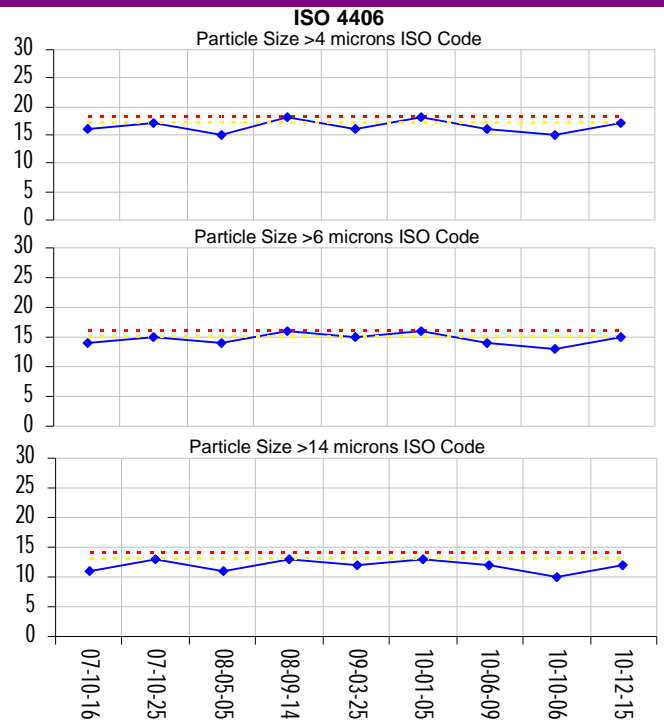
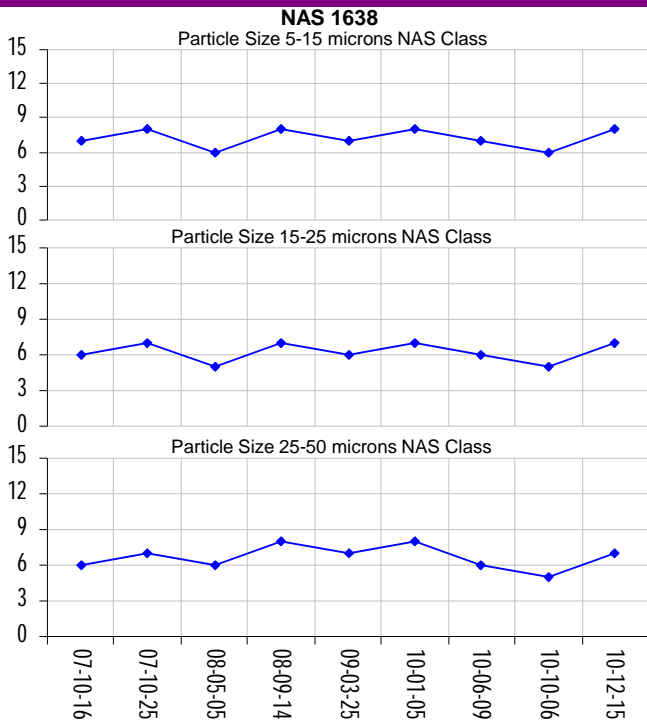
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Unit ID : **Pfizer 835 After Filter**
 Unit Type : Engine Turbine Gas
 Unit Make : Solar Turbines
 Unit Model : T60 7901S
 Oil type/ Viscosity : SHELL TURBO T 32
 Oil System Capacity : 1000 Liters

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

Particle count indicates that oil cleanliness level is near to unacceptable range.

Lab ID	Current Sample		Previous Sample			Particle Count		Alarm Limit			
	Bottle ID	Date Sampled	150453	146122	137842	BASELINE	Engine Turbine Gas Solar Mars Turbo T32 (Pfizer)			ISO 4406	
Oil Hours (Kms)	584778	15-Dec-10	584775	584775	584539						
Unit Hours (Kms)	126		06-Oct-10	2685	1465						
Oil Added (Liters)	126		09-Jun-10	24150	21465						
Filters Hours (Kms)											
Contamination											
Particle Count NAS 1638 System Standard											
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	32,400	8	8,000	6	17,600	7					
Particle Size 15-25 microns	2,900	7	700	5	1,600	6					
Particle Size 25-50 microns	900	7	200	5	500	6					
Particle Size 50-100 microns	<100	6	<100	4	<100	6					
Particle Size >100 microns	<100	5	<100	2	<100	4					
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	971	17 C	240	15	528	16		>640	17	>1300	18
Particle Size > 6 microns	272	15 C	67	13	148	14		>160	15	>320	16
Particle Size > 14 microns	37	12	9	10	21	12		>40	13	>80	14
ISO 4406 Class Rating	17/15/12		15/13/10		16/14/12						


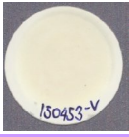
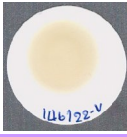
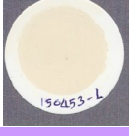

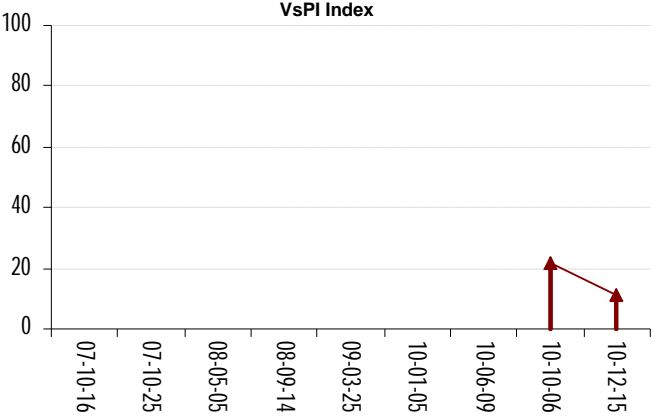
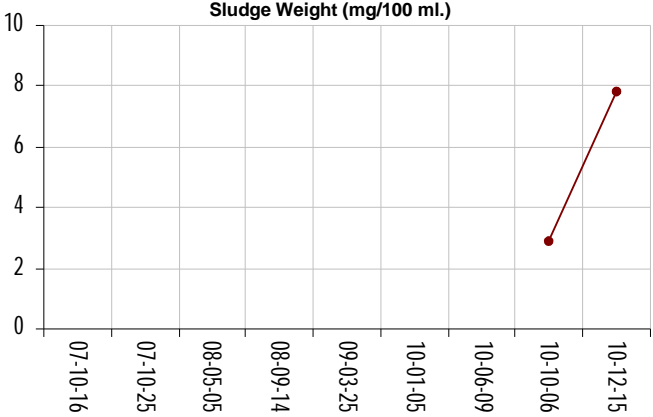


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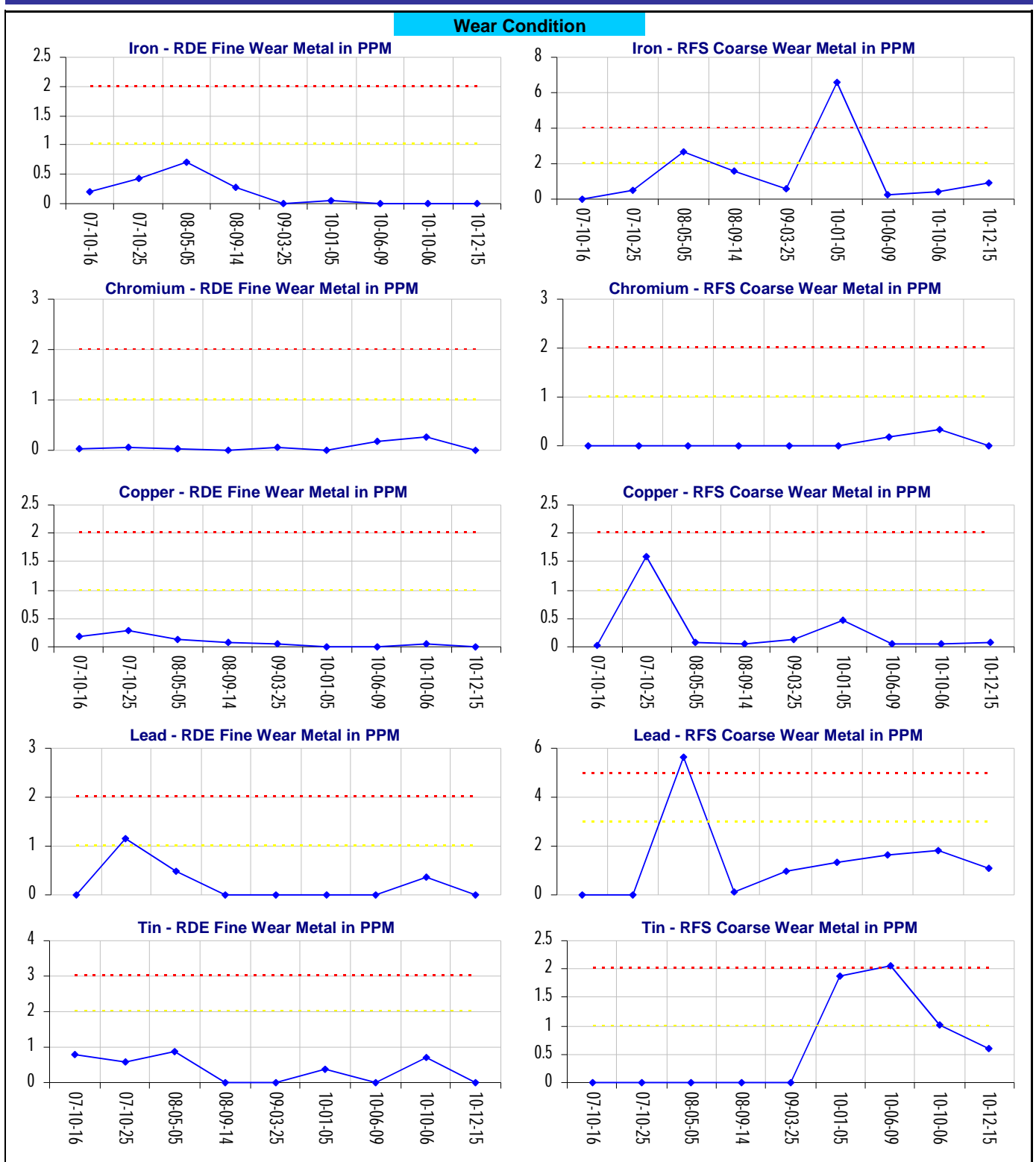
Notes (Finding, Evaluation, Interpretation, Suggestion and Recommendation)

Varnish & Sludge Potential Index (VsPI) indicates some varnish & sludge products are present in the oil, but the level is ACCEPTABLE at this time.

	Current Sample	Previous Sample	
Lab ID	150453	146122	
Bottle ID	584778	584775	
Date Sampled	15-Dec-10	06-Oct-10	
Oil Hours (Kms)	126	2685	
Unit Hours (Kms)	126	24150	
Oil Added (Liters)			
Filters Hours (Kms)			
Contamination			
Varnish and Sludge Potential Index™ (VsPI™)			
VPI (Varnish Potential Index) : Soluble Varnish Contamination in Oil			
	VPI View	VPI View	VPI View
VPI (Varnish Potential Index) Soluble Varnish Contaminant			
VPI Rating	9.5	19.9	
SPI (Sludge Potential Index) : or MPC test (Membrane Patch Colorimetric Test) : Insoluble Varnish Contamination in Oil			
	SPI View	SPI View	SPI View
SPI (Sludge Potential Index) Insoluble Varnish Contaminant			
SPI Rating	13.0	23.9	
Sludge Weight	7.8 mg/100 ml	2.9 mg/100 ml	mg/100 ml
Alarm Limit Name			
Engine Turbine Gas Solar Mars Turbo T32 (Pfizer)			
Caution		Warning	
>25		>50	
VsPI VsPI = (VPI + SPI) / 2	11.3	21.9	
VsPI Index 		Sludge Weight (mg/100 ml.) 	

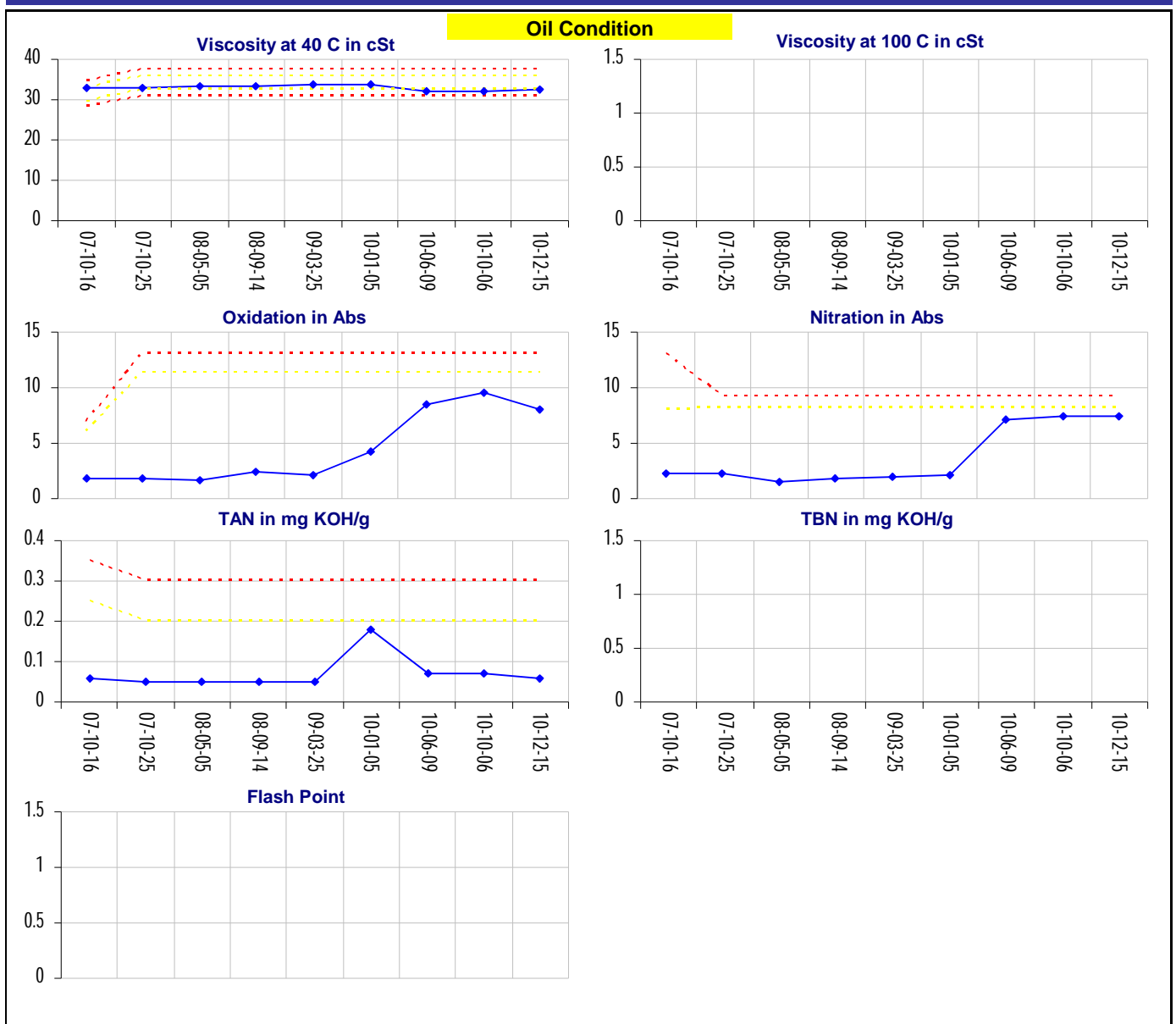
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