CUSTOMER

Code : **10101**

Name :

Address : Hemaraj ESIE, Free Zone 500/40 Moo 3
Tasit, Pluangdang,Rayong 21140

Site :

Location :

Test code : FC894 609

EQUIPMENT

Unit ID : **Sampling Tank Hydraulic**

Unit Type : Hyd Syst Industrial

Unit Make : (not given)

Unit Model : (not given)

OIL

Oil type / Viscosity : QUINTOLUBRIC 807 IS

Oil System Capacity :

WARNING
CAUTION
NORMAL

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

Note abnormal iron detected.
Corrosion particles are present.
Note pH levels appear in normal working range.
Particle count shows oil cleanliness level acceptable.
Recommend resample in 500 hours from the time this sample was taken, to monitor.

Wasan C.

Condition History	Test Method	Result	Current Sample Wear	Current Sample Oil	Current Sample Cont.	Previous Sample Wear	Previous Sample Oil	Previous Sample Cont.	Wear	Oil	Cont.	BASELINE
			C	N	N	N	N	N	C	C	N	
Lab ID			244083			240627			239483			
Bottle ID			1027014			1027019			1029220			
Date Sampled			22-Jan-14			24-Dec-13			17-Dec-13			
Oil Hours (Kms)			Not Given			Not Given			6 months			
Unit Hours (Kms)			Not Given			Not Given			6 months			
Oil Change												
Oil Added (Liters)												
Filters Hours (Kms)												

Alarm Limit

Alarm Limit Matrix -Set Name (Equipment type / oil type)

Hyd Syst Quintolubric 807 IS (Acushnet)

Wear Condition / Wear Element	Test Method	Result	Current Sample Fine(small) Wear	Current Sample Coarse(large) Wear	Previous Sample Fine(small) Wear	Previous Sample Coarse(large) Wear	Wear Fine(small) Wear	Wear Coarse(large) Wear	The New Oil (TNO)	Fine wear U-Caution	Fine wear U-Warning	Coarse wear U-Caution	Coarse wear U-Warning
Iron	D-6595	PPM	88.6 W	1.8	1.2	1.6	83.4 W	6.4 C	0	>5	>10	>5	>10
Chromium	D-6595	PPM	0.0	0.1	0.0	0.0	0.0	0.0	0	>5	>10	>5	>10
Lead	D-6595	PPM	10.2 W	1.6	3.7	0.0	7.2 C	2.0	0	>5	>10	>5	>10
Copper	D-6595	PPM	2.0	0.1	1.3	0.6	1.1	0.2	0	>5	>10	>5	>10
Tin	D-6595	PPM	20.5	0.0	19.0	0.0	19.2	1.9	0	>50	>70	>5	>10
Aluminum	D-6595	PPM	0.0	0.3	0.0	0.0	0.0	0.0	0	>5	>10	>5	>10
Nickel	D-6595	PPM	1.2	0.9	0.9	0.0	0.8	0.2	0	>5	>10	>5	>10
Silver	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	0.0	0				
Molybdenum	D-6595	PPM	0.0	2.4	0.0	0.0	0.0	0.8	0				
Titanium	D-6595	PPM	0.4	0.0	0.8	0.0	0.4	0.0	0				

Oil Condition	Test Method	Result	Current Sample Wear	Previous Sample Wear	Wear	TNO	L-Warning	L-Caution	U-Caution	U-Warning
Viscosity @ 40°C	D-445	cSt	0.8	0.8	0.6	0.9				
Viscosity @ 100°C	D-445	cSt								
Glycol	Refract.	%	4.0	3.4	2.4	3.0				
pH	D-1287		8.9	9.0	8.0 W	9.1	<8.8			>9.9
Reserved Alkalinity	D-1121	ml	8.10			40				

Contamination	Test Method	Result	Current Sample Wear	Current Sample Cont.	Previous Sample Wear	Previous Sample Cont.	Wear	Cont.	TNO	Fine wear U-Caution	Fine wear U-Warning	Coarse wear U-Caution	Coarse wear U-Warning
Sodium	D-6595	PPM	58		48		36		22				
Silicon	D-6595	PPM	19.9	0.0	22.2	2.9	13.1	0.2	0	>25	>50	>25	>50
Additive Element									TNO				
Boron	D-6595	PPM	0		0		0		0				
Magnesium	D-6595	PPM	15		12		11		0	>25	>50		
Calcium	D-6595	PPM	20		19		15		4	>25	>50		
Barium	D-6595	PPM	0		1		1		0				
Phosphorus	D-6595	PPM	110		95		94		364				
Zinc	D-6595	PPM	74	2	126	7	89	7	1				

Additional Test	Test Method	Result	TNO	L-Caution	L-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

U-Warning : Upper WARNING Level L-Warning : Lower WARNING required Level

First Level Alarm ,Alert Limit in Upper Level and/or Lower 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.

CUSTOMER
Code : **10101**
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Site :
Location :
Test code : FC894 609

EQUIPMENT
Unit ID : **Sampling Tank Hydraulic**
Unit Type : Hyd Syst Industrial
Unit Make : (not given)
Unit Model : (not given)

OIL
Oil type / Viscosity : QUINTOLUBRIC 807 IS
Oil System Capacity :

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

Particle count shows oil cleanliness level acceptable.

Wasan C.

	Current Sample	Previous Sample		Particle Count NAS 1638 ISO 4406
Lab ID	244083	240627	239483	
Bottle ID	1027014	1027019	1029220	BASELINE / Alarm Limit
Date Sampled	22-Jan-14	24-Dec-13	17-Dec-13	
Oil Hours (Kms)	Not Given	Not Given	6 months	Hyd Syst Quintolubric 807 IS (Acushnet)
Unit Hours (Kms)	Not Given	Not Given	6 months	
Oil Change				
Oil Added (Liters)				
Filters Hours (Kms)				

Contamination

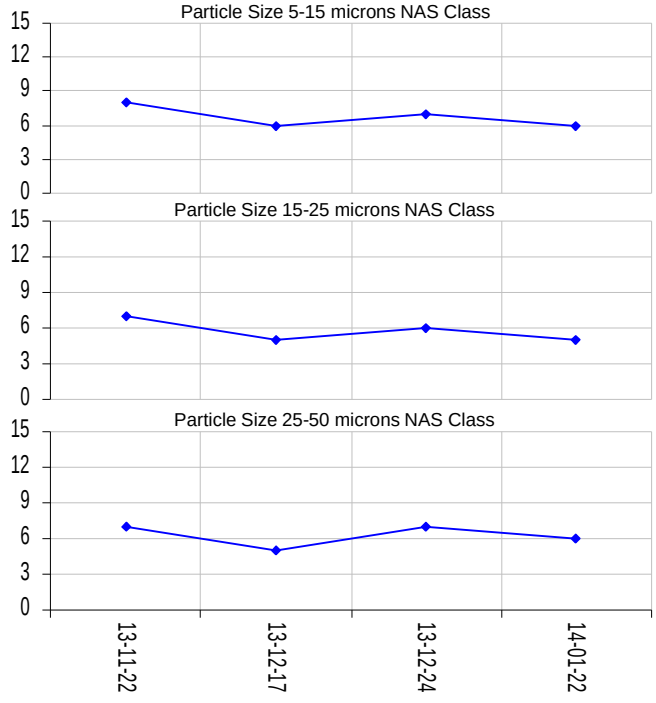
Particle Count NAS 1638 System Standard

Particle Size Range	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class	Class	U-Caution No. of Particles / 100ml.	U-Caution Class	U-Warning No. of Particles / 100ml.	U-Warning Class
Particle Size 5-15 microns	11,800	6	26,600	7	9,300	6					
Particle Size 15-25 microns	1,100	5	2,400	6	900	5					
Particle Size 25-50 microns	300	6	700	7	200	5					
Particle Size 50-100 microns	<100	5	<100	6	<100	5					
Particle Size >100 microns	<100	3	<100	4	<100	2					

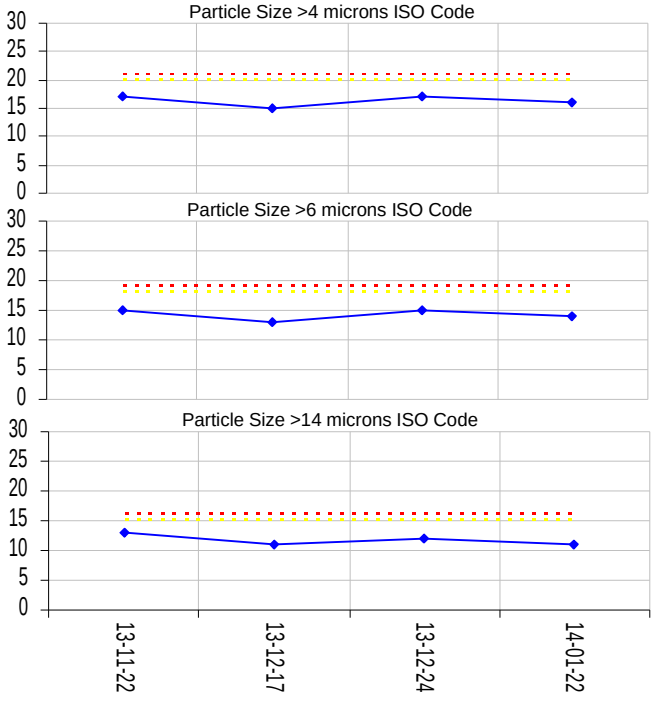
Particle Count ISO 4406:1999 System Standard

Particle Size Range	No. of Particles / ml.	Class	No. of Particles / ml.	Class	No. of Particles / ml.	Class	Class	U-Caution No. of Particles / ml.	U-Caution Class	U-Warning No. of Particles / ml.	U-Warning Class
Particle Size > 4 microns	356	16	798	17	278	15		>5000	20	>10000	21
Particle Size > 6 microns	99	14	223	15	78	13		>1300	18	>2500	19
Particle Size > 14 microns	14	11	31	12	11	11		>160	15	>320	16
ISO 4406 Class Rating	16 / 14 / 11		17 / 15 / 12		15 / 13 / 11			20/18/15		21/19/16	

NAS 1638



ISO 4406



CUSTOMER
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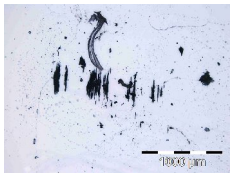
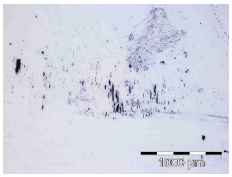
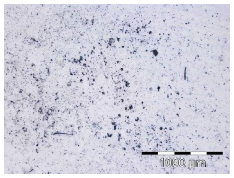
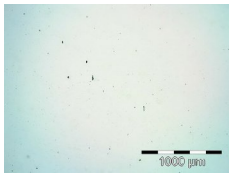
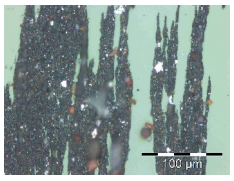
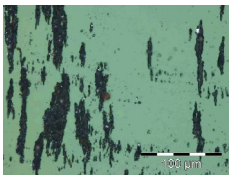
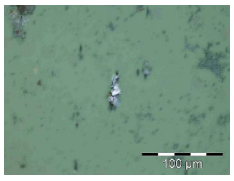
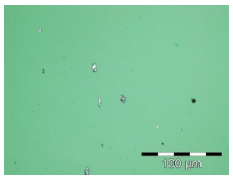
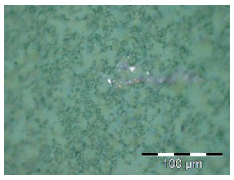
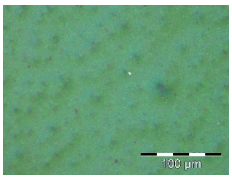
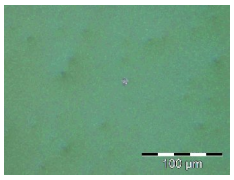
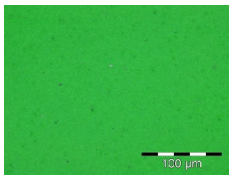
Site :
Location :
Test code : FC894 609

EQUIPMENT
Unit ID : **Sampling Tank Hydraulic**
Unit Type : Hyd Syst Industrial
Unit Make : (not given)
Unit Model : (not given)

OIL
Oil type / Viscosity : QUINTOLUBRIC 807 IS
Oil System Capacity :

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

Corrosion particles appear to make the majority of the ferous particles present. Recommend check for root cause of the corrosion.
Black oxides noted in ferrogram.

	Current Sample	Previous Sample		Ferrographic Analysis ASTM D 7690 M
Lab ID	244083	240627	239483	
Bottle ID	1027014	1027019	1029220	
Date Sampled	22-Jan-14	24-Dec-13	17-Dec-13	
Oil Hours (Kms)	Not Given	Not Given	6 months	
Unit Hours (Kms)	Not Given	Not Given	6 months	
Oil Change				
Oil Added (Liters)				
Filters Hours (Kms)				
Wear Condition				
Ferrographic Analysis				**Typical Normal Condition**
Volume of Sample Used	3.00 ml	3.00 ml	3.00 ml	3.0 ml
Image of Wear & Contaminants (Ferrogram) Magnification 50X				
Image of Wear & Contaminants (Ferrogram) Magnification 500X				
Image of Wear & Contaminants (Filtergram) Magnification 500X				

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				80	2-3	1						
Fatigue Gear Wear				5	5-10	1	5	5-20	1			
Fatigue Bearing Wear												
Fatigue Sphere												
Severe Sliding Wear												
Cutting Wear												
Black Oxides	40	5-10	1	10	5-20	1	15	10-20	1			
Red Oxides	80	5-10	1									
Corrosive Wear												
Dirt and Dust	5	5-40	3	5	5-20	3	80	10-40	3	100	2-5	3
Copper												
White Metal	5	5-10	2									
Ferrographic Analysis Rating (FAR) rating in grade	A B **C** D F			A B **C** D F			A B **C** D F					

%Rating : Percent area covered by wear debris particles or contaminant particles.
Size : Size in micron unit (0.001 mm)
Particle Type :
1 : Ferrous Wear Particles
1.1: Low Alloy 1.2 :Medium Alloy 1.3: High Alloy 1.4 Case Hardened
2 : Non-ferrous Wear Particles
2.1: Copper 2.2 : White Metal 2.3: Babbitting
3 : Contamination Particles
3.1:Fibers

Ferrographic Analysis Rating (FAR) , rating in grade
A : Excellent - normal rubbing wear condition
B : Good - normal rubbing wear condition
C : Fair or moderate - normal rubbing wear condition
D : Severe and/or critical - wear condition
F : Extreme severe and/or extreme critical - wear condition

CUSTOMER
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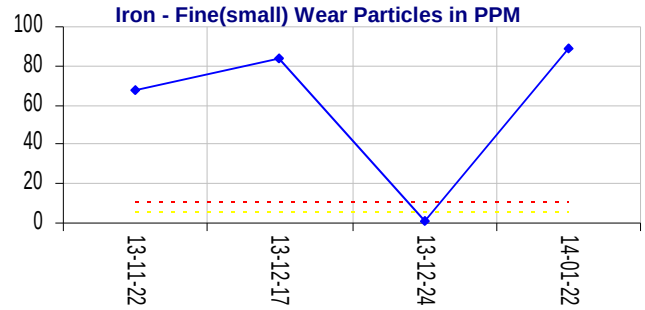
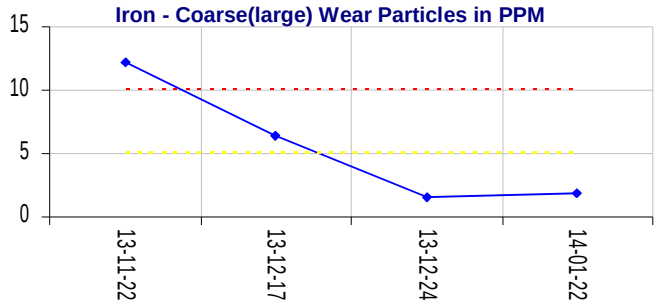
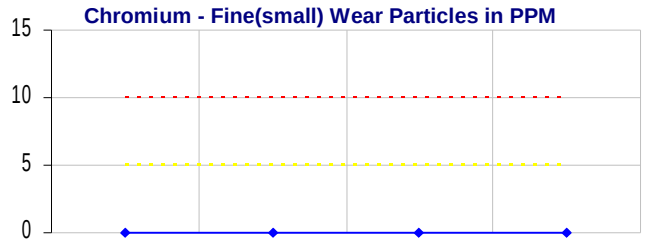
EQUIPMENT
Unit ID : **Sampling Tank Hydraulic**
Unit Type : Hyd Syst Industrial
Unit Make : (not given)
Unit Model : (not given)

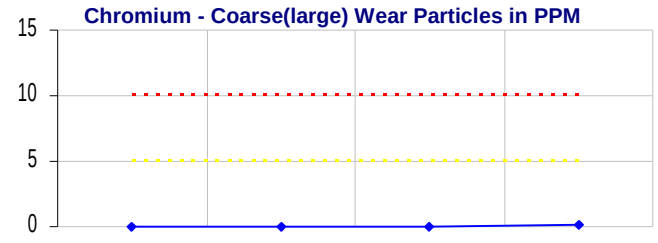
OIL
Oil type / Viscosity : QUINTOLUBRIC 807 IS
Oil System Capacity :

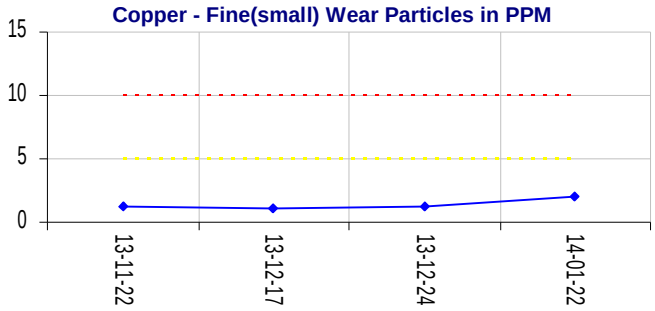
Wear Condition

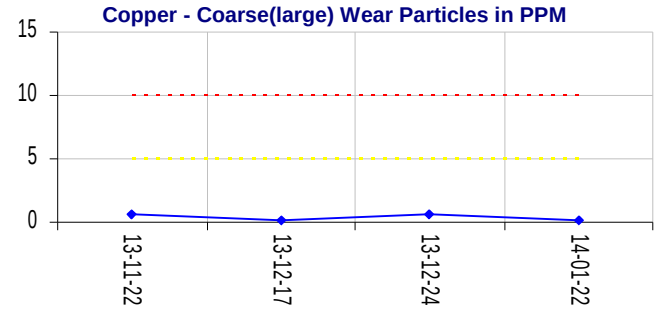


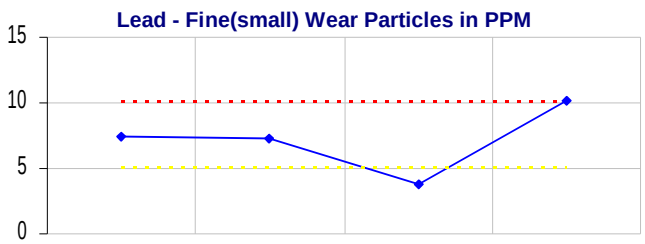


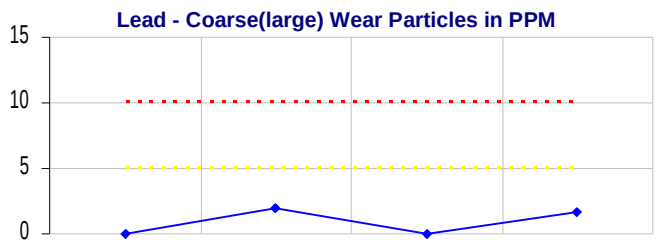


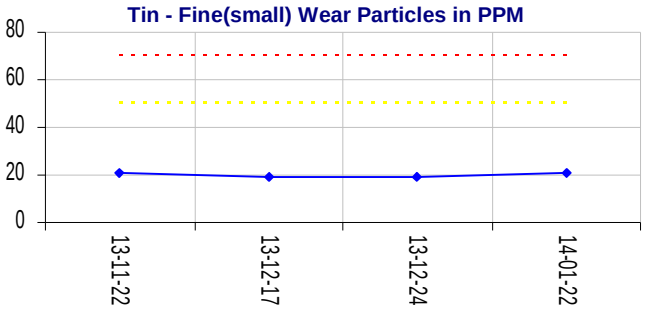


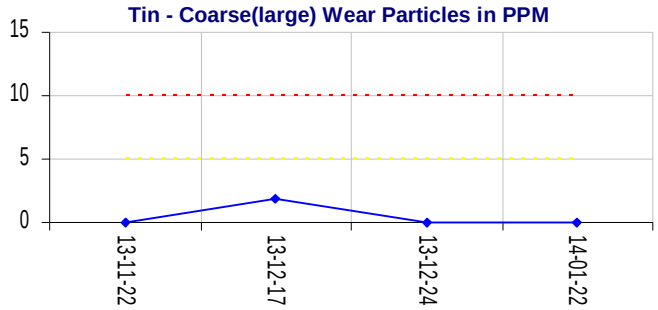












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EQUIPMENT

Unit ID : **Sampling Tank Hydraulic**

Unit Type : Hyd Syst Industrial

Unit Make : (not given)

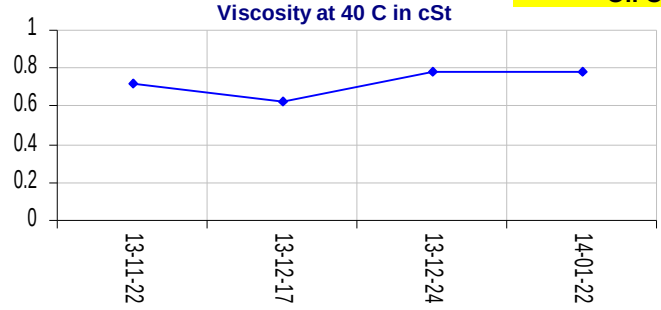
Unit Model : (not given)

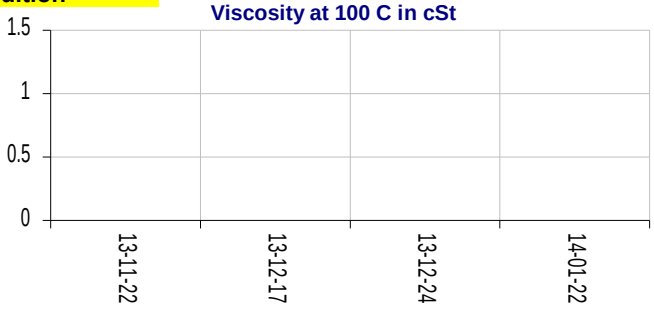
OIL

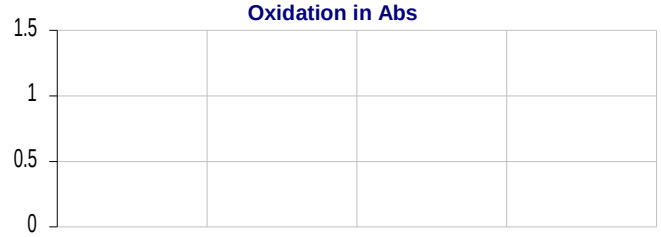
Oil type / Viscosity : QUINTOLUBRIC 807 IS

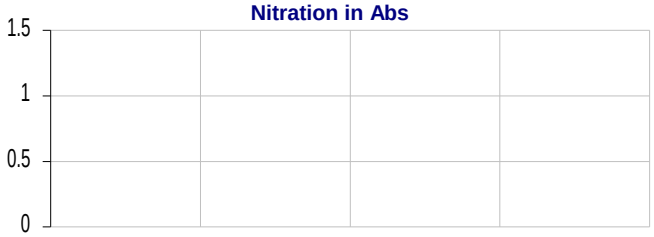
Oil System Capacity :

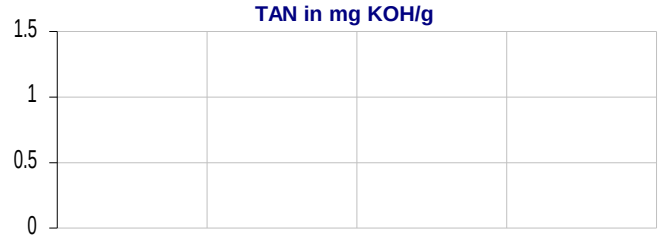
Oil Condition

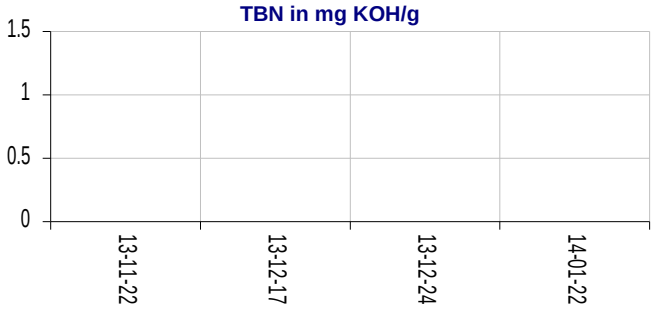


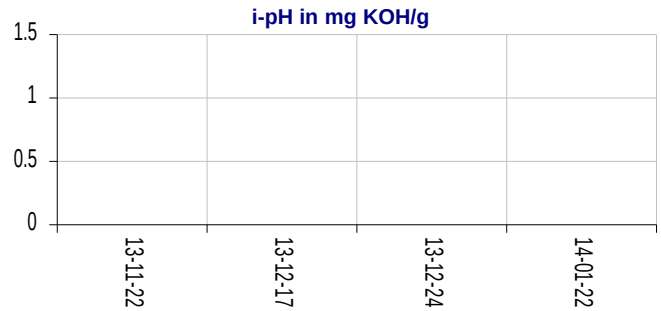












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Unit Model : (not given)

OIL
Oil type / Viscosity : QUINTOLUBRIC 807 IS
Oil System Capacity :

Contamination Condition