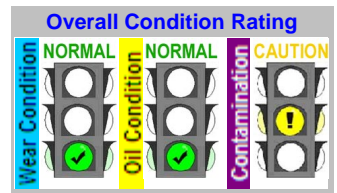


C Code : **28107**  
 U Name :  
 T  
 O Address : 31/1 Moo 4, T.Kaohuakwai, A.Phunphin, Suratthani, 84130  
 M  
 E R Site :  
 Location :  
 Test code : 812

Unit ID : **TP01 LA DCM**  
 Unit Type : Heat Transfer Oil  
 Unit Make : THERMAX CHINEHWAD DUNE  
 Unit Model : TP 01 ONF 625  
 Oil type / Viscosity : CALTEX TEXATHERM 46  
 Oil System Capacity :



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

All oil conditions and oil tests appear in normal working range.  
 Note Flash point and TAN appear in normal working range.  
 Insolubles matter in oil is considered moderate level range.  
 No oil change recommended at this time, oil appears suitable for further use.  
 Recommend resample in 6 months from the time this sample was taken, to monitor.

Wasan C / Andy Sitton

			Current Sample			Previous Sample			Baseline and Alarm Limit							
Condition History			Wear	Oil	Cont.	Wear	Oil	Cont.	Wear	Oil	Cont.	Alarm Limit				
<b>Lab ID</b> <b>Bottle ID</b> <b>Date Sampled</b> <b>Oil Hours (Kms)</b> <b>Unit Hours (Kms)</b> <b>Oil Added (Liters)</b> <b>Filters Hours (Kms)</b>	Test Method	Result	N	N	C	C	N	C	N	N	N	Heat Transfer General Caltex TEXATHERM 46				
			152106	none	17-Jan-11	140037	none	19-Jul-10	118374	none	19-Jul-09	43800				
			Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given				
			Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given	Not Given				
Wear Condition												Reference Oil (RO)	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	2.6	41.3	3.4	177.8	0.0	2.6	0.0	2.6	0	2.6	>100	>250	>100	>250
Chromium	D-6595	PPM	0.0	0.2	0.2	0.3	0.0	0.1	0.0	0.1	0	0.1	>20	>40	>20	>40
Lead	D-6595	PPM	0.0	0.8	0.0	0.5	0.0	1.3	0.0	1.3	0	1.3	>30	>60	>30	>60
Copper	D-6595	PPM	0.6	0.3	0.0	0.8	0.0	0.2	0.0	0.2	0	0.2	>40	>75	>40	>75
Tin	D-6595	PPM	1.0	0.1	0.2	0.0	0.0	2.0	0.0	2.0	0	2.0	>10	>40	>10	>40
Aluminum	D-6595	PPM	0.5	1.7	0.0	3.4	0.0	1.0	0.0	1.0	0	1.0	>20	>40	>20	>40
Nickel	D-6595	PPM	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0	0.0				
Silver	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	>10	>40	>10	>40
Molybdenum	D-6595	PPM	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0				
Titanium	D-6595	PPM	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0	0.0				
Oil Condition												RO	L-Warning	L-Caution	U-Caution	U-Warning
Viscosity @ 40°C	D-445	cSt	45.3		45.4		45.0				46.0		<34.5	<39.1	>52.9	>57.5
Viscosity @ 100°C	D-445	cSt														
Oxidation	FTIR	Abs	3.7		3.1		3.3				1.6			>4.5	>5.5	
Nitration	FTIR	Abs	4.3		4.3		4.4				2.4			>6	>7.2	
TAN	D-974	mg KOH/g.	0.04		0.10		0.10				0.10			>0.5	>0.75	
TBN	D-4739	mg KOH/g.														
Contamination												RO	RDE fine		RFS coarse	
Water	T-H2O Check™	% (Wt.)	0.033		0.027		0.055				0.010			>0.05	>0.1	
Sodium	D-6595	PPM	0		0		0				0					
Silicon	D-6595	PPM	0.2	6.5	1.7	6.6	0.4	2.0			0		>10	>20	>10	>20
Additive Element												RO	RDE fine		RFS coarse	
Boron	D-6595	PPM	0		0		0				0		>15	>30		
Magnesium	D-6595	PPM	0		0		0				0		>50	>75		
Calcium	D-6595	PPM	1		1		0				0					
Barium	D-6595	PPM	0		0		0				0					
Phosphorus	D-6595	PPM	0		0		0				2					
Zinc	D-6595	PPM	0	3	0	4	0	1			0					
Additional Test												RO	U-Caution	U-Warning	U-Caution	U-Warning
Flash Point	D-3828	°C	215		216		210				225		<140	<190		
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, 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.

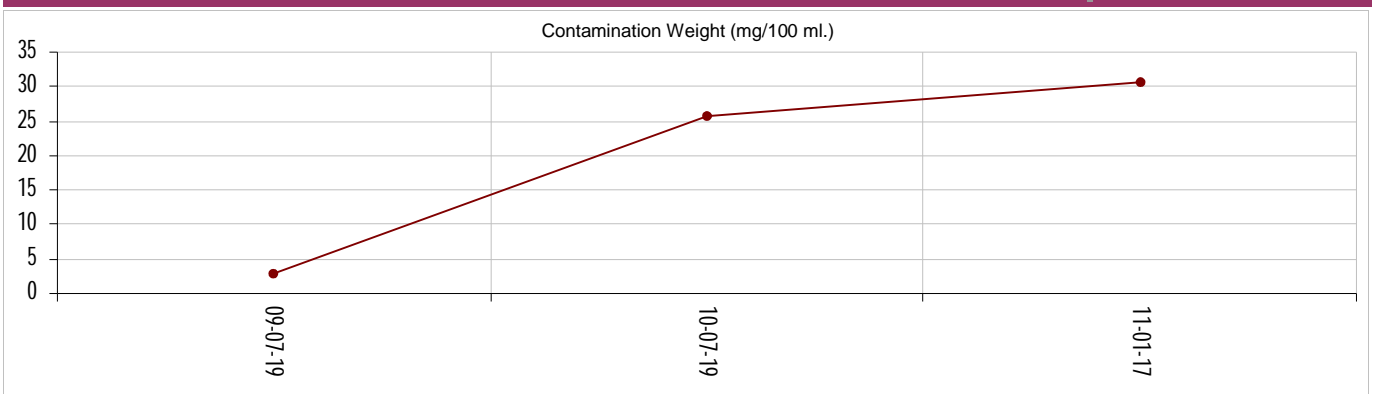
C Code : 28107  
 U Name : Suretex Limited ( Ansell Surat Thani)  
 T Address : 31/1 Moo 4, T.Kaohuakwai, A.Phunphin, Suratthani, 84130  
 O M E R  
 Site :  
 Location :  
 Test code : 812

Unit ID : TP01 LA DCM  
 Unit Type : Heat Transfer Oil  
 Unit Make : THERMAX CHINEHWAD DUNE  
 Unit Model : TP 01 ONF 625  
 Oil type / Viscosity : CALTEX TEXATHERM 46  
 Oil System Capacity :

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

Gravimetric analysis (photos shown) indicate the oil is moderately contaminated with sludge, dirt, rust, coking and other debris.

	Current Sample		Previous Sample		
<b>Lab ID</b>	152106		140037		118374
<b>Bottle ID</b>	none		none		none
<b>Date Sampled</b>	17-Jan-11		19-Jul-10		19-Jul-09
<b>Oil Hours (Kms)</b>	Not Given		Not Given		78840 *
<b>Unit Hours (Kms)</b>	Not Given		Not Given		43800
<b>Oil Added (Liters)</b>					
<b>Filters Hours (Kms)</b>					
<b>Contamination</b>					
<b>Gravimetric Analysis : Test Method for Insoluble Contamination of Fluid</b>					
<b>The New Oil (TNO)</b>					
Fluid Volume	10	ml	10	ml	10
Filter Type	0.8	micron	0.8	micron	0.80
Photo of Insoluble Contamination Retained on Filter Membrane Disc					
Photo of Insoluble Contamination Retained on Filter Membrane Disc					
Photo of Insoluble Contamination Retained on Filter Membrane Disc - Magnification 100x					
Photo of Insoluble Contamination Retained on Filter Membrane Disc Magnification 100x					
<b>Contaminant Retain on Filter Disk</b>	<b>% Visual Rating</b>		<b>% Visual Rating</b>		<b>% Visual Rating</b>
Grey & Black Metal	10		20		10
Copper Base Metal					
Bright & White Metal					
Rust & Corrosion	20		20		10
Dirt & Dust	20		20		80
Fibers / Filters / Seals					
Sludge & Varnish					
Coking	50		40		
<b>Contamination Weight (mg/100 ml)</b>	30.7	mg/100 ml	25.6	mg/100 ml	2.9
					TNO 2
					Caution >80
					Warning >100



**Gravimetric Analysis:**  
 - determines total solid and soft compound contamination level by weight  
 - determines oil contamination level by colorimetric (color density)  
 - identifies particle contamination in oils by microscopic analysis  
 In brief , will analyze oil cleanliness and source(s) of contamination.

C Code : 28107	Unit ID : TP01 LA DCM
U Name : Suretex Limited ( Ansell Surat Thani)	
T Address : 31/1 Moo 4, T.Kaohuakwai, A.Phunphin, Suratthani, 84130	Unit Type : Heat Transfer Oil
O	Unit Make : THERMAX CHINEHWAD DUNE
M	Unit Model : TP 01 ONF 625
E	
R Site :	Oil type/ Viscosity : CALTEX TEXATHERM 46
Location :	
Test code : 812	Oil System Capacity :

Lab ID : 152106 Date sampled : 17-Jan-11 Hours on Oil : Not Given Hours on Unit : Not Given Bottle ID : none

ส่วนที่ 1 : หน้าหลัก

[Section 1 : Main Page](#)

คุณสมบัติของน้ำมันและผลทดสอบน้ำมันทั้งหมด พบว่าอยู่ในช่วงปกติ  
ค่าจุดวาบไฟ และสภาพความเป็นกรดของน้ำมัน ยังอยู่ในช่วงปกติ  
ผลการวิเคราะห์ปริมาณสิ่งสกปรกที่แขวนลอยอยู่ในน้ำมันพบว่ามีความอยู่ในระดับปานกลาง  
แนะนำว่าไม่จำเป็นต้องเปลี่ยนถ่ายน้ำมันในขณะนี้ น้ำมันยังมีสภาพเหมาะสมที่จะใช้งานต่อไปได้  
แนะนำให้เก็บตัวอย่างซ้ำอีกครั้งภายใน 6 เดือน หลังจากเก็บตัวอย่างครั้งนี้ เพื่อเฝ้าติดตาม

ส่วนที่ 2 : หน้าที่สอง

[Section 2 : Second Page](#)

ส่วนที่ 3 : หน้าของ Analytical Ferrography

[Section 3 : Analytical Ferrography Page](#)

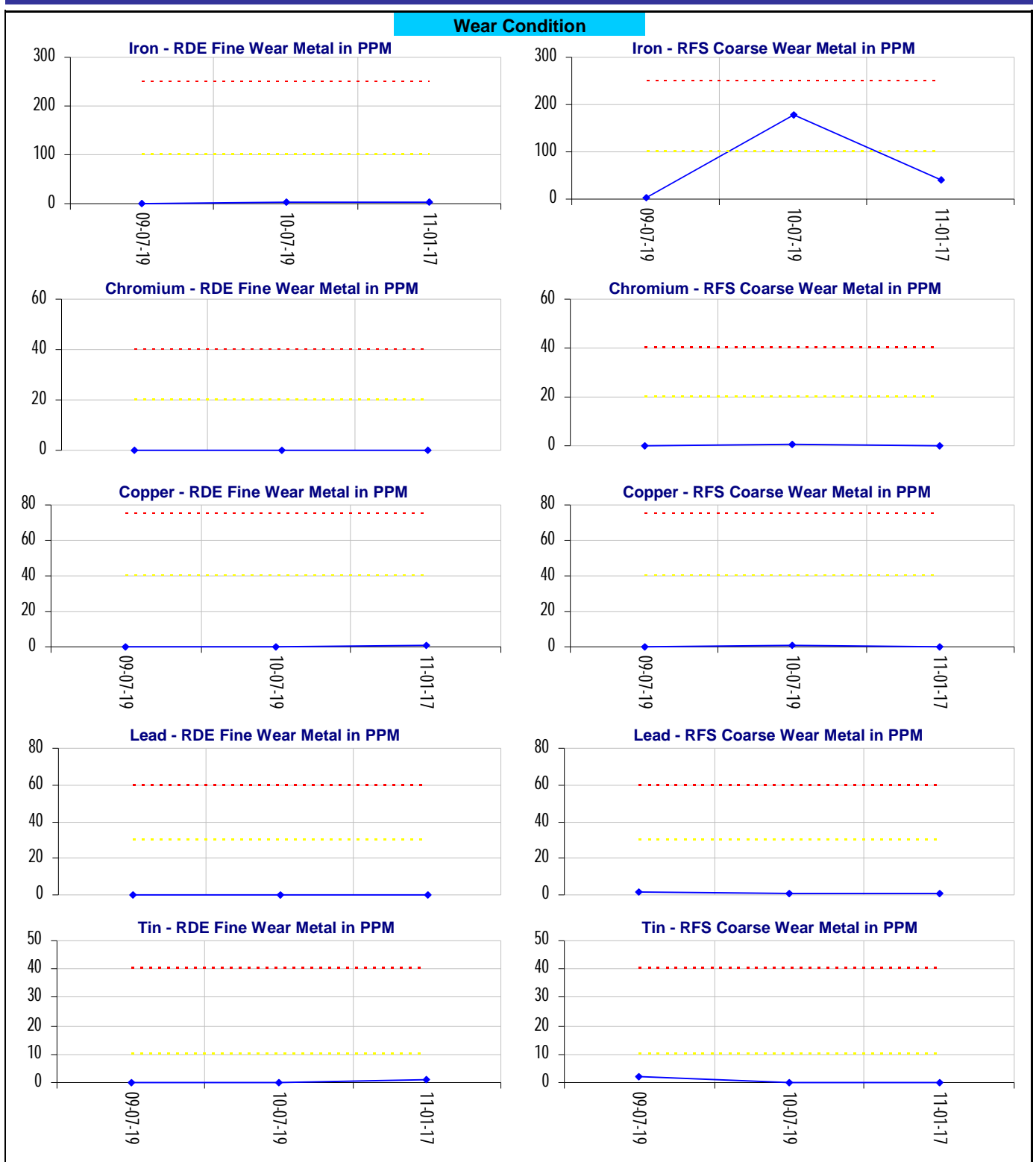
ส่วนที่ 4 : หน้าของ Gravimetric Page

[Section 4 : Gravimetric Page](#)

ผลวิเคราะห์จากการกรองผ่านกระดาษกรอง (แสดงดังภาพ) พบว่าน้ำมันมีการปนเปื้อนปริมาณปานกลางของ ตะกอน ฝุ่นละออง เศษโลหะกัดกร่อน เถ้าคาร์บอน และเศษสิ่งสกปรกอื่นๆ

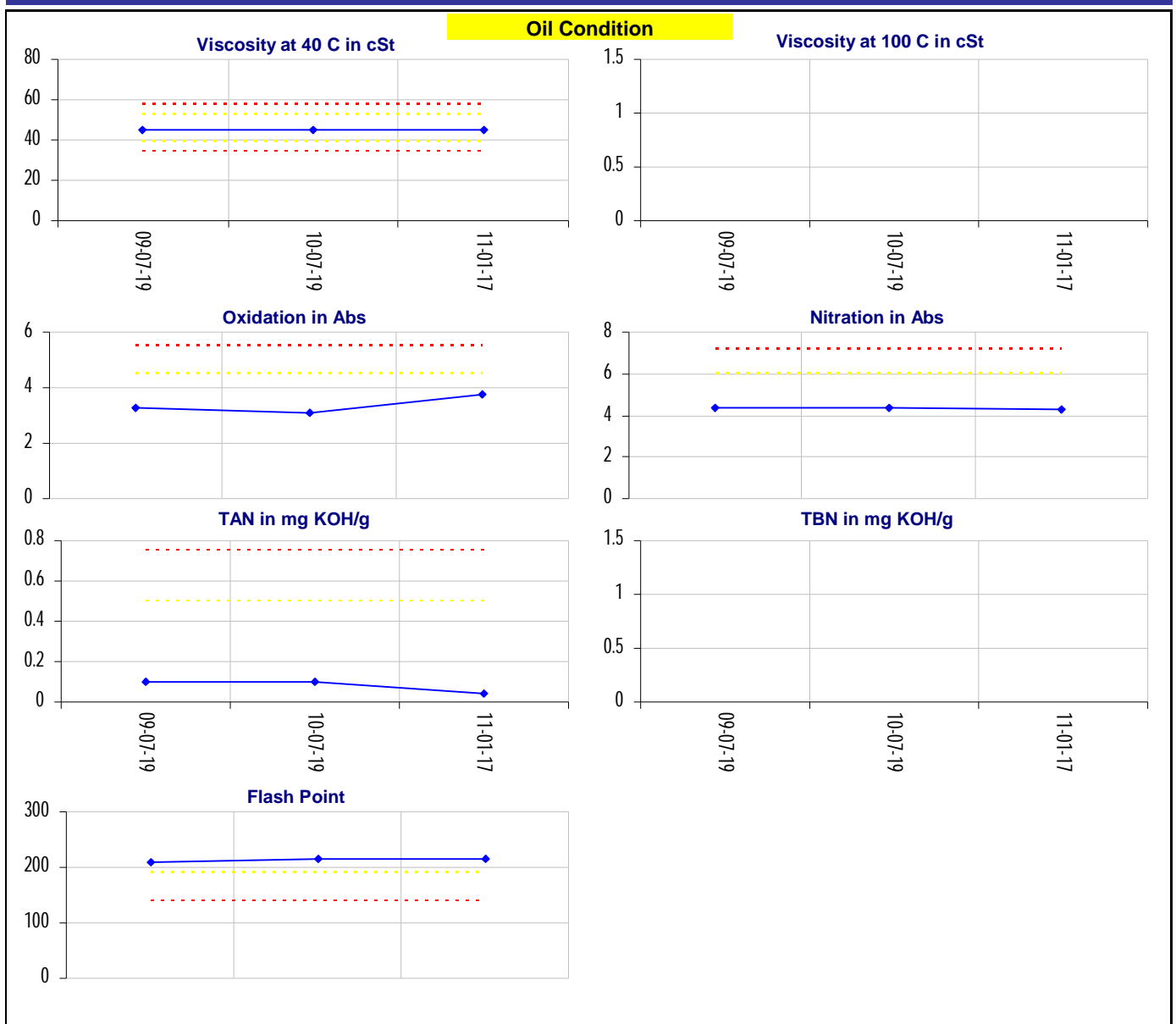
C Code : 28107  
 Name : Suretex Limited ( Ansell Surat Thani)  
 Address : 31/1 Moo 4, T.Kaohuakwai, A.Phunphin, Suratthani, 84130  
 Site :  
 Location :  
 Test code : 812

Unit ID : TP01 LA DCM  
 Unit Type : Heat Transfer Oil  
 Unit Make : THERMAX CHINEHWAD DUNE  
 Unit Model : TP 01 ONF 625  
 Oil type / Viscosity : CALTEX TEXATHERM 46  
 Oil System Capacity :



C Code : 28107  
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 S Address : 31/1 Moo 4, T.Kaohuakwai, A.Phunphin, Suratthani, 84130  
 T  
 O  
 M  
 E  
 R  
 Site :  
 Location :  
 Test code : 812

E Unit ID : TP01 LA DCM  
 O Unit Type : Heat Transfer Oil  
 U Unit Make : THERMAX CHINEHWAD DUNE  
 I Unit Model : TP 01 ONF 625  
 P  
 M  
 E  
 N  
 T  
 Oil type /  
 I Viscosity : CALTEX TEXATHERM 46  
 L  
 Oil System Capacity :



C Code : 28107  
 U Name : Suretex Limited ( Ansell Surat Thani)  
 S Address : 31/1 Moo 4, T.Kaohuakwaj, A.Phunphin, Suratthani, 84130  
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E Unit ID : TP01 LA DCM  
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 M  
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 N  
 T  
 Oil type / Viscosity : CALTEX TEXATHERM 46  
 L  
 Oil System Capacity :

