

C U S T O M E R
Code : 1100
Name :
Address : KM.91-92, 42 Moo 8, CIE-8 Rd.,
 Bowin, Sriracha,
Site :
Location :
Test code : H894

E Q U I P M E N T
Unit ID : 41 11 11EKX01BB
Unit Type : Hyd Syst Industrial
Unit Make :
Unit Model : (not given)
Oil type / Viscosity : CALTEX RANDO HD ISO 46
Oil System Capacity : 300 Liters



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

Minor amount of dirt and abrasive wear noted.
 All oil conditions and oil tests appear in normal working range.
 Recommend check to determine how dirt is entering the system and correct the problem to prevent further dirt entry.
 Recommend test for Anti-Oxidant Additive Depletion by ASTM D 6971 (Test Code 617) on next sampling interval.

Wasan C.

			Current Sample			Previous Sample			Baseline and Alarm Limit								
Condition History			Wear	Oil	Cont.	Wear	Oil	Cont.	Wear	Oil	Cont.	Alarm Limit					
Lab ID Bottle ID Date Sampled Oil Hours (Kms) Unit Hours (Kms) Oil Added (Liters) Filters Hours (Kms)	Test Method	Result	C	H	C	N	N	C	N	N	C	B A S E L I N E Alarm Limit Matrix -Set Name (Equipment type / oil type) Hyd Syst Turbine CTX Rando HD 46					
			224283	1009037	29-Jul-13	221303	1009034	28-Jun-13	218079	1008968	28-May-13						
			23544	80840		22796	80092		22059	79355							
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	RDE fine	RFS coarse	U-Caution	U-Warning	U-Caution	U-Warning	
Iron	D-6595	PPM	0.0	14.4 W	0.0	0.5	0.1	1.7	0	0	0	0	>2	>3	>2	>4	
Chromium	D-6595	PPM	0.0	0.3	0.0	0.3	0.0	0.0	0	0	0	0	>1	>2	>1	>2	
Lead	D-6595	PPM	0.0	0.2	0.6	1.3	0.0	0.0	0	0	0	0	>1	>2	>4	>8	
Copper	D-6595	PPM	0.2	0.7	0.1	0.1	0.3	0.3	0	0	0	0	>2	>3	>1	>2	
Tin	D-6595	PPM	0.1	2.8	0.0	0.6	0.0	0.0	0	0	0	0	>3	>5	>3	>5	
Aluminum	D-6595	PPM	0.0	2.2 C	0.4	0.4	0.0	0.0	0	0	0	0	>1	>2	>2	>3	
Nickel	D-6595	PPM	0.3	0.0	0.0	0.0	0.0	0.0	0	0	0	0	>1	>2	>1	>2	
Silver	D-6595	PPM	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0	0					
Molybdenum	D-6595	PPM	0.0	0.0	0.4	0.0	0.0	0.0	0	0	0	0					
Titanium	D-6595	PPM	0.0	5.5	0.1	0.4	0.0	0.9	0	0	0	0					
Oil Condition												TNO	L-Warning	L-Caution	U-Caution	U-Warning	
Viscosity @ 40 °C	D-445	cSt	44.4		44.6		44.6		43.7				<40.9	<41.5	>45.9	>48.1	
Viscosity @ 100 °C	D-445	cSt															
Oxidation	FTIR	Abs	7.5		7.6		7.3		11.5					>14.4	>17.3		
Nitration	FTIR	Abs	6.6		6.3		6.4		14.0					>17.5	>21		
TAN	D-974	mg KOH/g.	0.48		0.47		0.47		0.43					>0.63	>0.86		
TBN	D-4739	mg KOH/g.															
Contamination												TNO	U-Caution		U-Warning		
Water	1-H2O Check™	% (Wt.)	0.013		0.016		0.017		0.011					>0.025	>0.045		
Sodium	D-6595	PPM	1		1		1		0								
Silicon	D-6595	PPM	0.4	10.3 C	0.8	0.0	0.0	0.0	0	0	0	0	>6	>10	>6	>12	
Additive Element												TNO					
Boron	D-6595	PPM	0		0		0		0								
Magnesium	D-6595	PPM	0		0		0		0								
Calcium	D-6595	PPM	21		18		23		32								
Barium	D-6595	PPM	0		0		0		5								
Phosphorus	D-6595	PPM	270		221		301		304								
Zinc	D-6595	PPM	385	118	352	57	464	62	477								
Additional Test												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 **▲** : 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
 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
 Accuracy of interpretation and recommendation are based on representatives sample and information supplied.
 No warranty is expressed or implied for this report.

C Code : 1100
U Name :
S
T
O
M Address :
E KM.91-92, 42 Moo 8, CIE-8 Rd.,
R Bowin, Sriracha,

Site
Location :
Test code : H894

E Unit ID : 41 11 11EKX01BB
Q
U Unit Type : Hyd Syst Industrial
I Unit Make :
P Unit Model : (not given)
M
E Oil type / Viscosity : CALTEX RANDO HD ISO 46
N
T

Oil System Capacity : 300 Liters

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

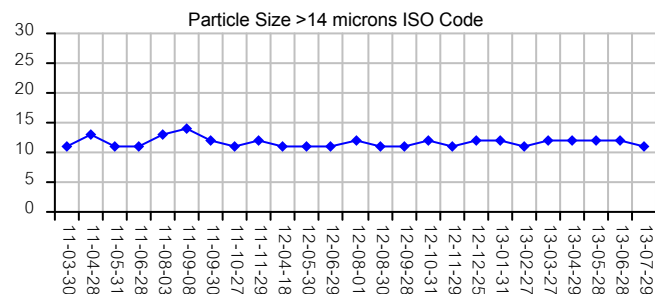
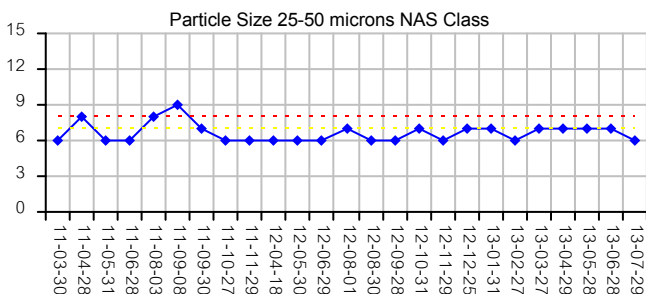
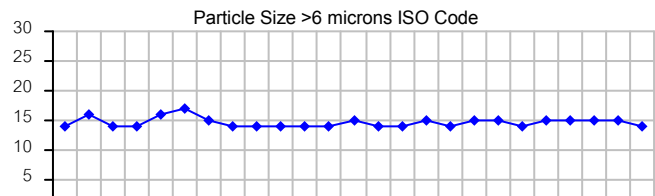
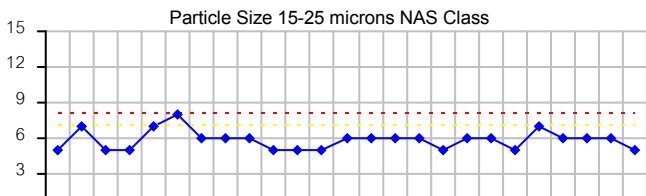
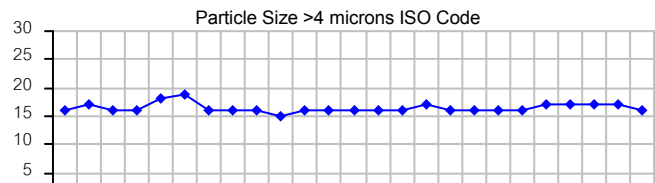
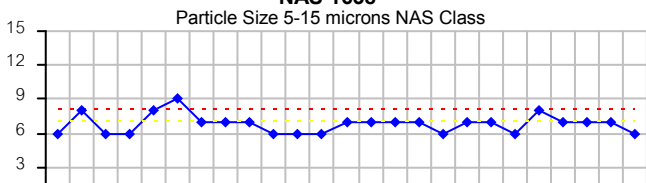
Particle count shows oil cleanliness level acceptable.

Lab ID	Current Sample		Previous Sample		Particle Count	
	Bottle ID	224283	221303	218079	NAS 1638	ISO 4406
Date Sampled	1009037	1009034	1008968	BASELINE	Alarm Limit	
Oil Hours (Kms)	29-Jul-13	28-Jun-13	28-May-13	Hyd Syst Turbine CTX Rando HD		
Unit Hours (Kms)	23544	22796	22059	46		
Oil Added (Liters)	80840	80092	79355			
Filters Hours (Kms)						

Contamination							U-Caution					U-Warning	
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	Class	
Particle Size 5-15 microns	15,000	6	26,300	7 C	22,100	7 C		>16000	7	>32000	8		
Particle Size 15-25 microns	1,400	5	2,400	6	2,000	6		>2850	7	>5700	8		
Particle Size 25-50 microns	400	6	700	7	600	7		>506	7	>1012	8		
Particle Size 50-100 microns	<100	5	<100	6	<100	6							
Particle Size >100 microns	<100	3	<100	4	<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	452	16	788	17	663	17					
Particle Size > 6 microns	126	14	221	15	185	15					
Particle Size > 14 microns	18	11	31	12	26	12					
ISO 4406 Class Rating	16 / 14 / 11		17 / 15 / 12		17 / 15 / 12						

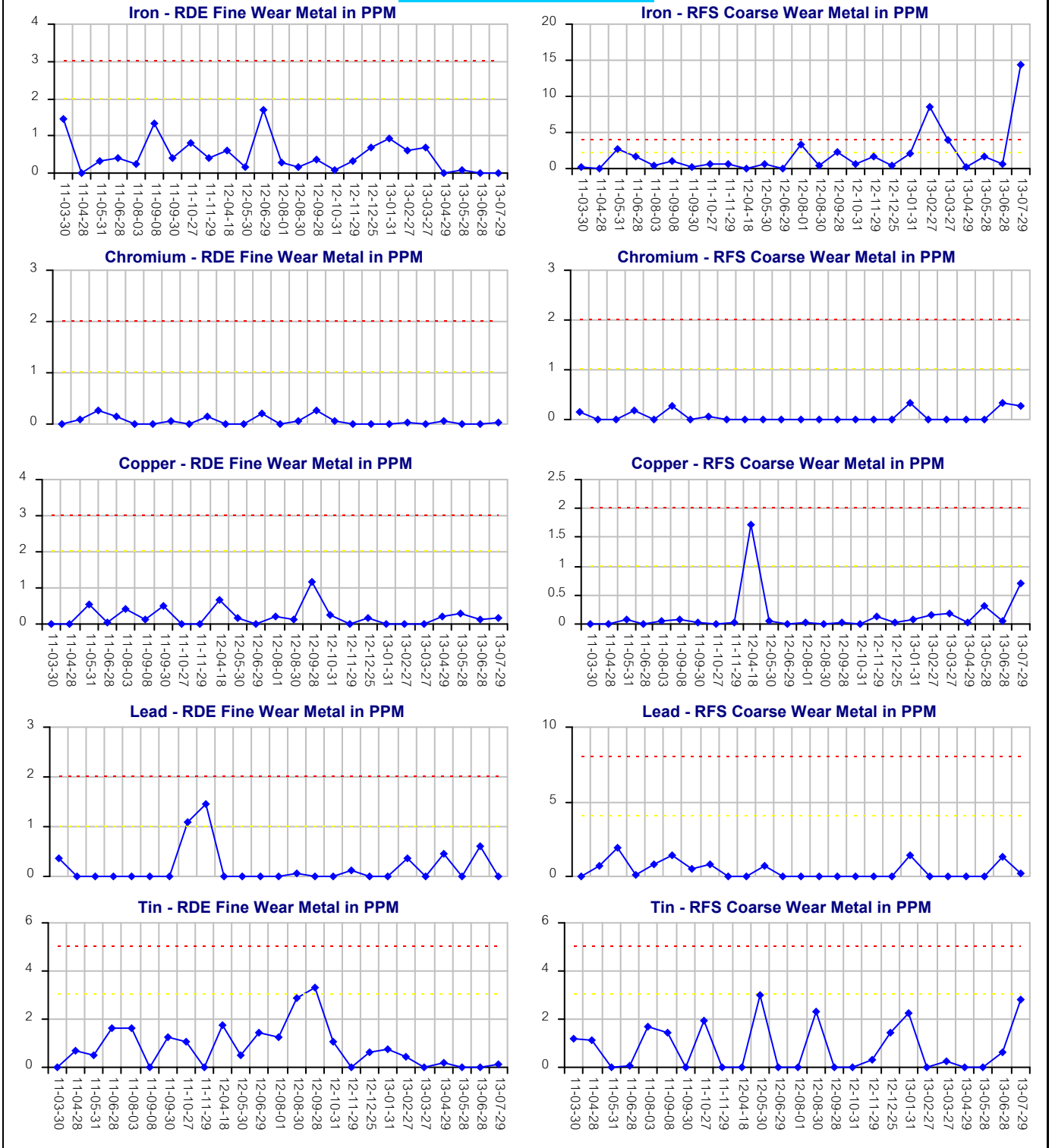
NAS 1638



C U S T O M E R
Code : 1100
Name :
Address : Chonburi Industrial Estate Highway 331,
KM.91-92, 42 Moo 8, CIE-8 Rd.,
Bowin, Sriracha, CHonburi 20230
Site :
Location : Gas compressor EHC unit 11
Test code : H894

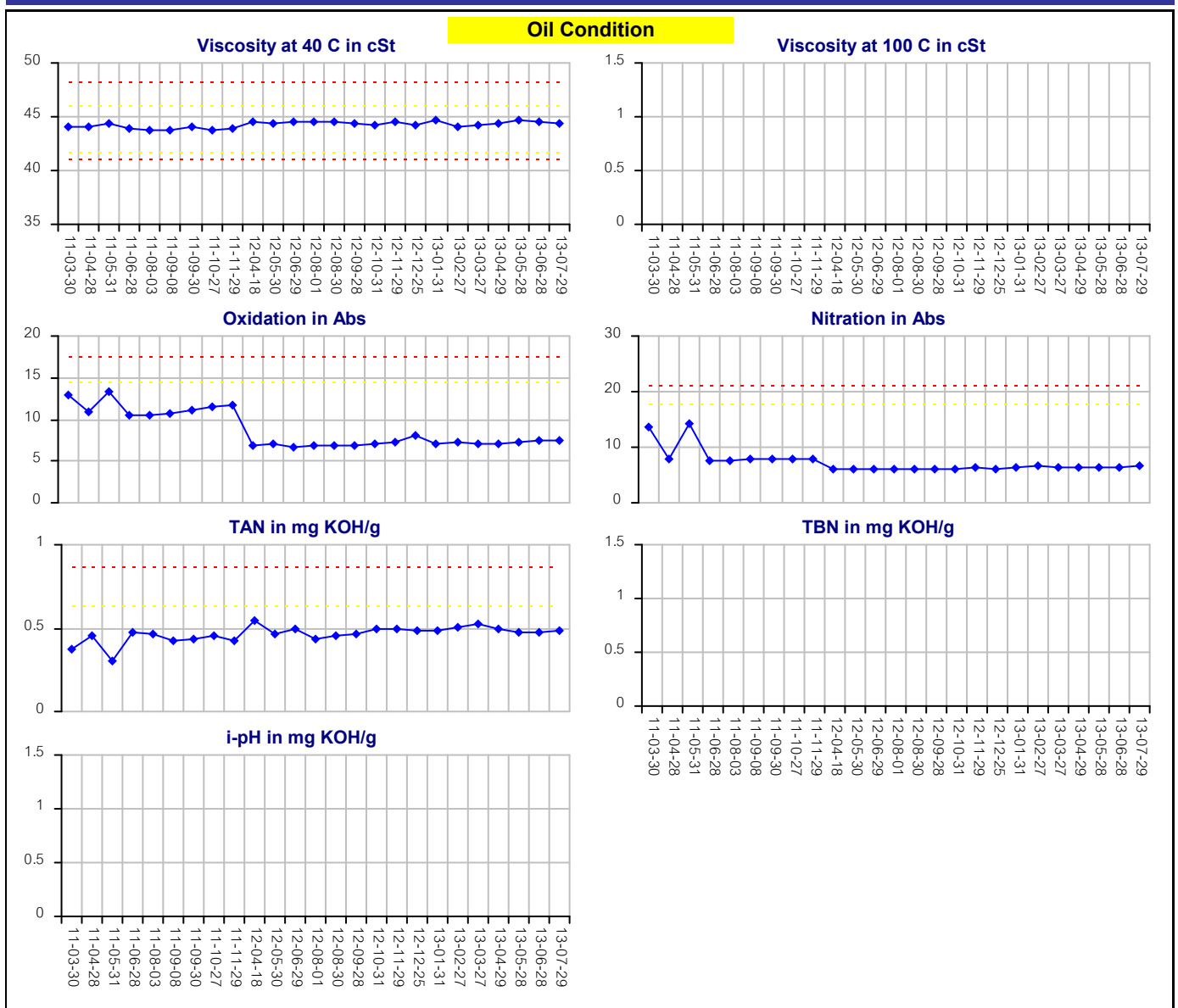
E Q U I P M E N T
Unit ID : 41 11 11EKX01BB
Unit Type : Hyd Syst Industrial
Unit Make :
Unit Model : (not given)
Oil type / Viscosity : CALTEX RANDO HD ISO 46
Oil System Capacity : 300 Liters

Wear Condition



C Code : 1100
U Name :
S
T
O
M Address :
E KM.91-92, 42 Moo 8, CIE-8 Rd.,
R Bowin, Sriracha, CHonburi :
S Site
L Location :
L Test code : H894

E Unit ID : 41 11 11EKX01BB
Q
U Unit Type : Hyd Syst Industrial
I Unit Make :
P Unit Model : (not given)
M
E
N
T Oil type /
L Viscosity : CALTEX RANDO HD ISO 46
 Oil System Capacity : 300 Liters



C U S T O M E R
Code : 1100
Name :
Address :
 KM.91-92, 42 Moo 8, CIE-8 Rd.,
 Bowin, Sriracha,
Site :
Location :
Test code : H894

E Q U I P M E N T
Unit ID : 41 11 11EKX01BB
Unit Type : Hyd Syst Industrial
Unit Make :
Unit Model : (not given)
Oil type / Viscosity : CALTEX RANDO HD ISO 46
Oil System Capacity : 300 Liters

