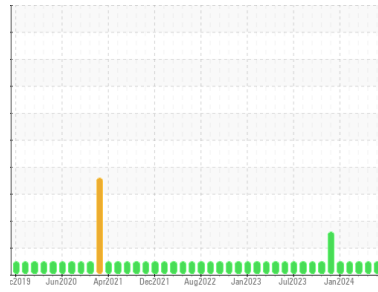




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
CRANE - T LANGE
Machine Id
T LANGE
Component
Starboard Genset
Fluid
CHEVRON DELO 400 LE 15W40 (5 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0892645	WC0892641	WC0892616
Sample Date	Client Info			09 Apr 2024	09 Mar 2024	14 Feb 2024
Machine Age	hrs	Client Info		52407	36756	51824
Oil Age	hrs	Client Info		250	250	250
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>4.0		<1.0	<1.0	<1.0
Water	WC Method	>0.1		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	8	5	5
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	4	4	5
Lead	ppm	ASTM D5185m	>17	0	0	0
Copper	ppm	ASTM D5185m	>70	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		441	342	346
Barium	ppm	ASTM D5185m		0	<1	<1
Molybdenum	ppm	ASTM D5185m		135	130	128
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		746	659	656
Calcium	ppm	ASTM D5185m		1670	1582	1570
Phosphorus	ppm	ASTM D5185m	1200	786	690	687
Zinc	ppm	ASTM D5185m	1300	910	877	865
Sulfur	ppm	ASTM D5185m	3200	3100	2585	2568

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	6	6	6
Sodium	ppm	ASTM D5185m		2	2	2
Potassium	ppm	ASTM D5185m	>20	0	2	3

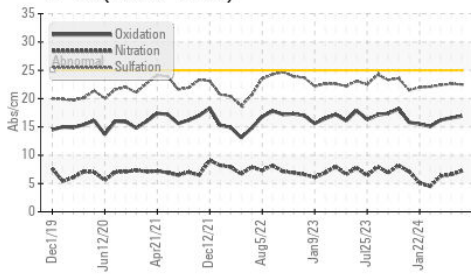
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.2	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.2	6.6	6.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.5	22.6	22.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	16.6	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	8.2	9.4	9.7

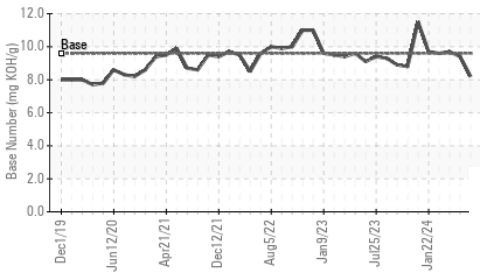


OIL ANALYSIS REPORT

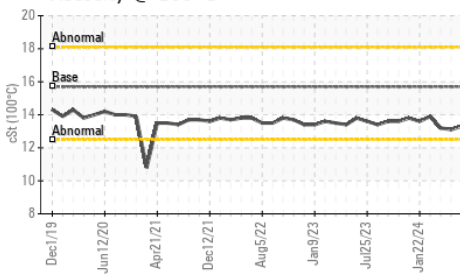
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

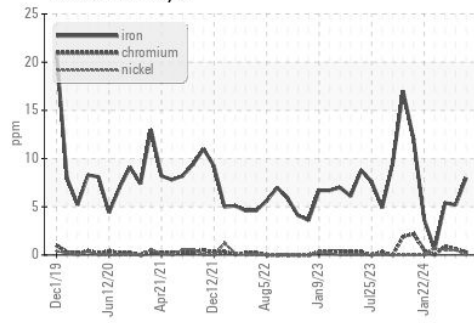


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

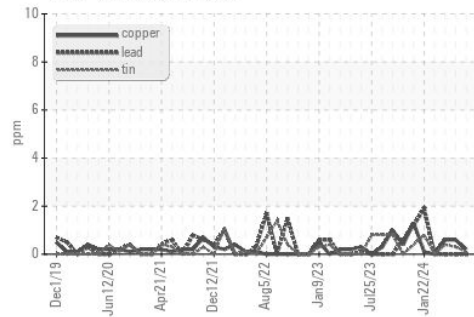
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	13.3	13.1

GRAPHS

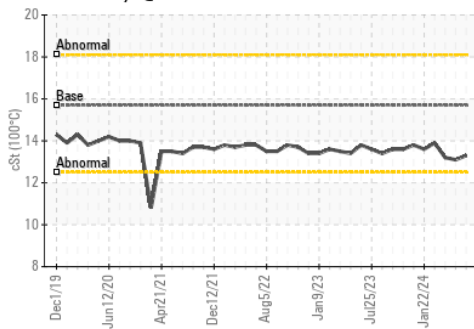
Ferrous Alloys



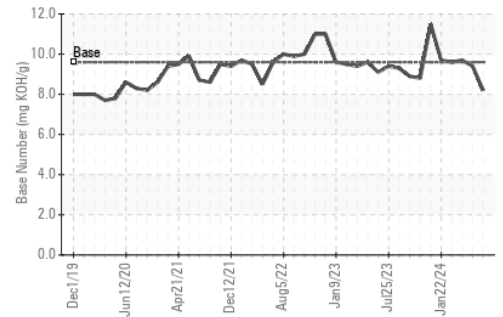
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0892645
 Lab Number : 06183702
 Unique Number : 11035028
 Test Package : FLEET

Received : 17 May 2024
 Tested : 21 May 2024
 Diagnosed : 21 May 2024 - Wes Davis

ASSOCIATED TERMINALS - CRANE

CONVENT, LA
 US 70723

Contact: GREG JOSEY
 gjosey@associatedterminals.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: (225)562-3515