



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
SUE KOSSOW
Machine Id
[SUE KOSSOW] 008 641018-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0058402	MW0042968	MW0043330
Sample Date		Client Info		06 Jan 2024	01 Dec 2023	10 Aug 2023
Machine Age	hrs	Client Info		16251	16239	16109
Oil Age	hrs	Client Info		216	204	26
Filter Age	hrs	Client Info		216	204	26
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	4	5	3
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	3	4	2
Lead	ppm	ASTM D5185m	>17	0	<1	0
Copper	ppm	ASTM D5185m	>70	<1	<1	0
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Elemental level of silicon (Si) above normal.

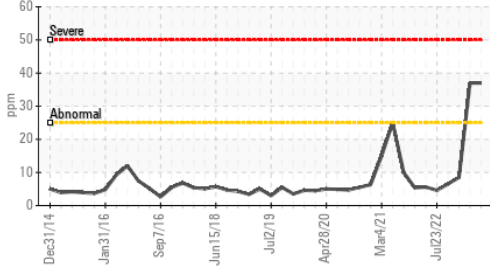
Silicon	ppm	ASTM D5185m	>25	▲ 37	▲ 37	8
Potassium	ppm	ASTM D5185m	>20	0	2	<1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.0	6.8	5.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.9	22.7	21.0
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

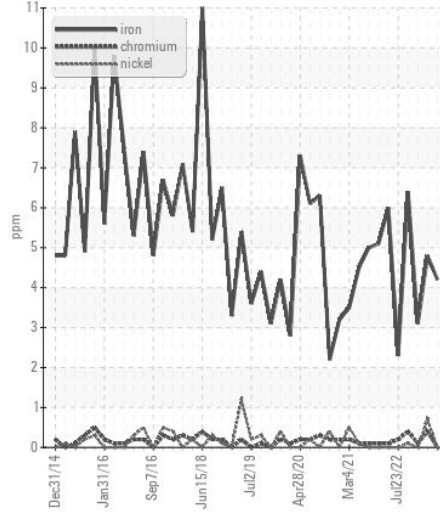
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<1	1	<1
Boron	ppm	ASTM D5185m		322	360	388
Barium	ppm	ASTM D5185m		0	11	0
Molybdenum	ppm	ASTM D5185m		119	122	114
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		638	616	643
Calcium	ppm	ASTM D5185m		1595	1518	1508
Phosphorus	ppm	ASTM D5185m	1200	669	648	657
Zinc	ppm	ASTM D5185m	1300	796	804	782
Sulfur	ppm	ASTM D5185m	3200	2357	2637	2801
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.1	17.0	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	8.4	8.9	8.9
Visc @ 100°C	cSt	ASTM D445	15.7	13.1	13.2	13.6

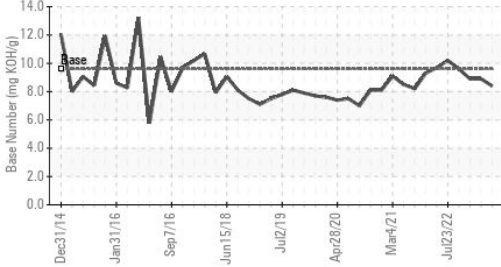
▲ Silicon (ppm)



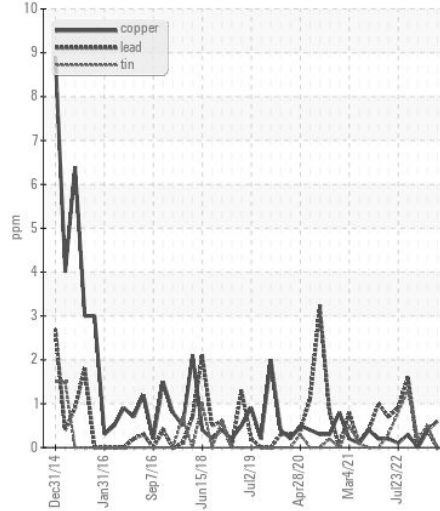
Ferrous Alloys



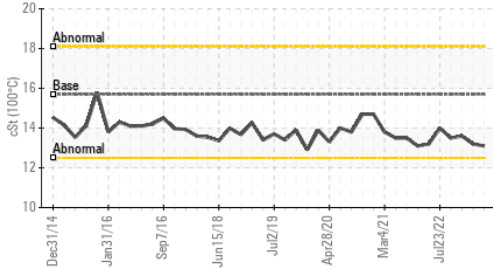
Base Number



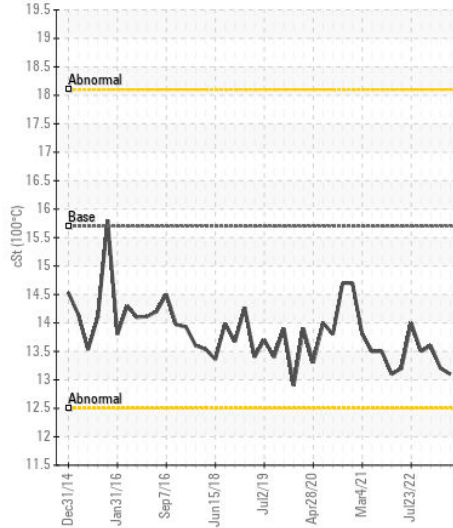
Non-ferrous Metals



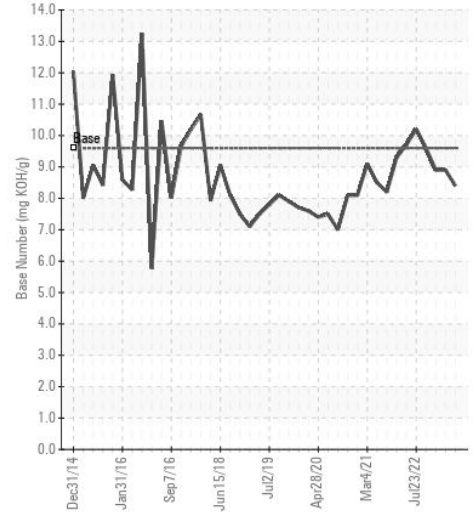
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0058402 **Received** : 12 Jan 2024
Lab Number : 06060007 **Diagnosed** : 16 Jan 2024
Unique Number : 10831389 **Diagnostician** : Don Baldrige
Test Package : MAR 2

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)

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