



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

DAVID K WILSON

Machine Id

[DAVID K WILSON] 008 534110-8

Component

Starboard Genset

Fluid

CHEVRON DELO 400 XLE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0018143	MW0066212	MW0041918
Sample Date		Client Info		31 May 2024	01 Feb 2024	07 Jan 2024
Machine Age	hrs	Client Info		26172	23706	0
Oil Age	hrs	Client Info		303	302	0
Filter Age	hrs	Client Info		0	302	0
Oil Changed		Client Info		N/A	Not Changd	N/A
Filter Changed		Client Info		N/A	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

There is no indication of any contamination in the oil.

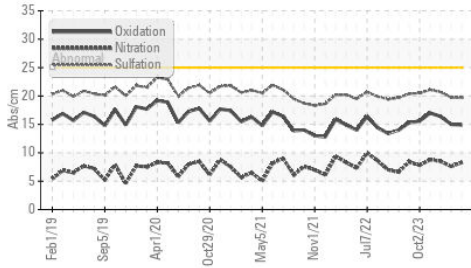
Silicon	ppm	ASTM D5185m	>25	5	6	5
Potassium	ppm	ASTM D5185m	>20	4	3	<1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.3	7.6	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	19.7	20.7
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

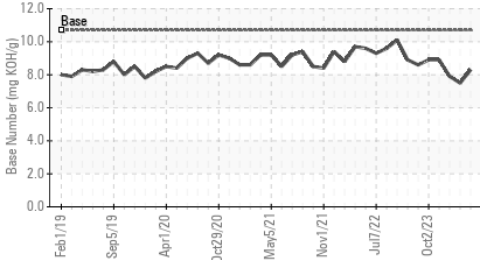
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		3	0	2
Boron	ppm	ASTM D5185m		167	201	183
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		76	76	77
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		508	467	552
Calcium	ppm	ASTM D5185m		2134	1992	1893
Phosphorus	ppm	ASTM D5185m	760	528	491	627
Zinc	ppm	ASTM D5185m	830	633	597	704
Sulfur	ppm	ASTM D5185m	2770	2916	2931	2628
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	15.0	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	8.3	7.5	7.9
Visc @ 100°C	cSt	ASTM D445	14.9	13.4	13.3	13.7

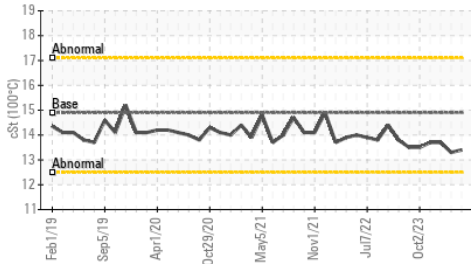
FT-IR (Direct Trend)



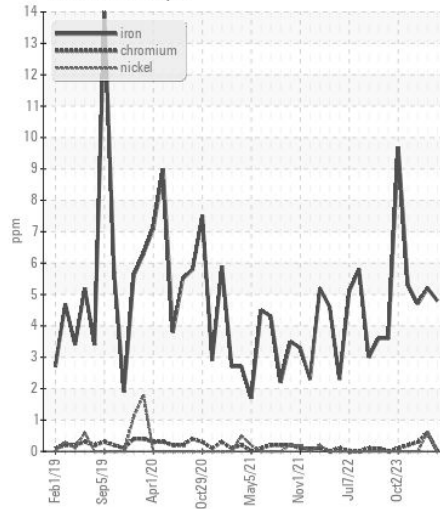
Base Number



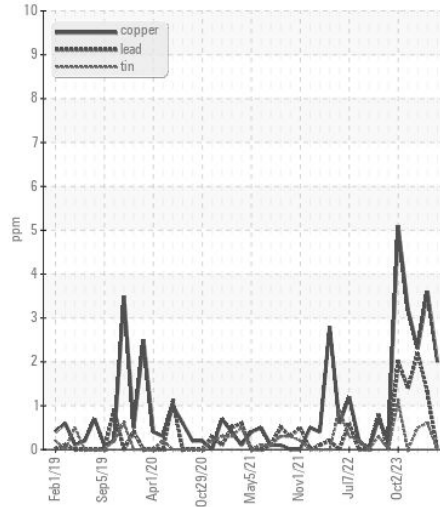
Viscosity @ 100°C



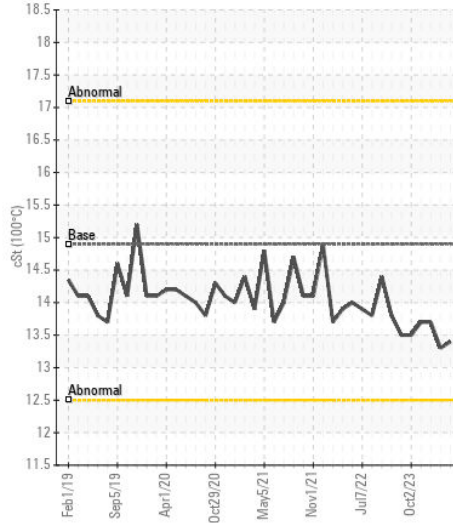
Ferrous Alloys



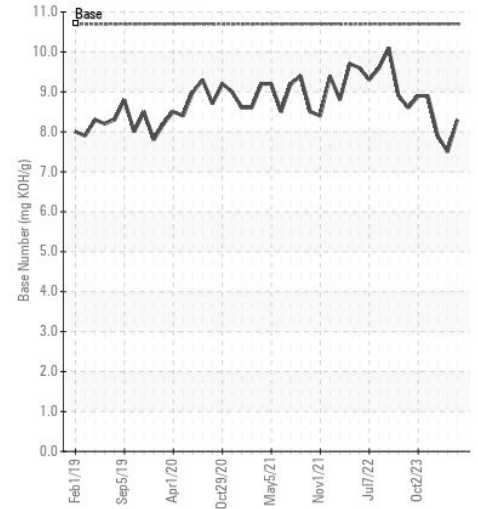
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW0018143

Lab Number : 06212801

Unique Number : 11085665

Test Package : MAR 2

Received : 17 Jun 2024

Tested : 19 Jun 2024

Diagnosed : 19 Jun 2024 - Angela Borella

INGRAM BARGE

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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)