MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
JOHN R OPERLE
Machine Id
[JOHN R OPERLE] 007 630998-7
Component
Port Genset
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

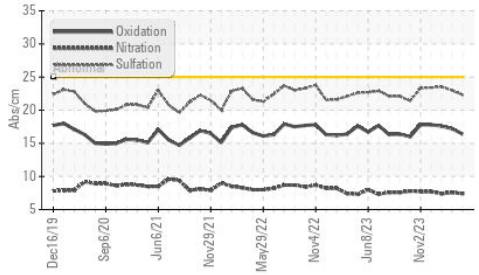
There is no indication of any contamination in the oil.

FLUID CONDITION

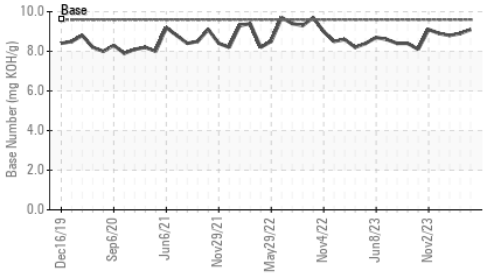
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0066015	MW0066006	MW0061531
Sample Date		Client Info		18 May 2024	15 Apr 2024	08 Jan 2024
Machine Age	hrs	Client Info		37758	3735	36940
Oil Age	hrs	Client Info		411	407	406
Filter Age	hrs	Client Info		411	407	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	MARGINAL	NORMAL
Iron	ppm	ASTM D5185m	>50	5	8	6
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		<1	1	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	4	2
Lead	ppm	ASTM D5185m	>17	0	<1	0
Copper	ppm	ASTM D5185m	>70	1	3	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	8	7
Potassium	ppm	ASTM D5185m	>20	0	2	<1
Fuel		WC Method	>4.0	<1.0	▲ 2.4	<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	7.4	7.6	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	23.0	23.5
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
Sodium	ppm	ASTM D5185m		<1	0	<1
Boron	ppm	ASTM D5185m		291	416	332
Barium	ppm	ASTM D5185m		0	2	0
Molybdenum	ppm	ASTM D5185m		128	144	137
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m		693	710	701
Calcium	ppm	ASTM D5185m		1748	1665	1705
Phosphorus	ppm	ASTM D5185m	1200	736	789	742
Zinc	ppm	ASTM D5185m	1300	901	892	887
Sulfur	ppm	ASTM D5185m	3200	2978	2989	2643
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	17.2	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	9.1	8.9	8.8
Visc @ 100°C	cSt	ASTM D445	15.7	12.1	12.3	12.8

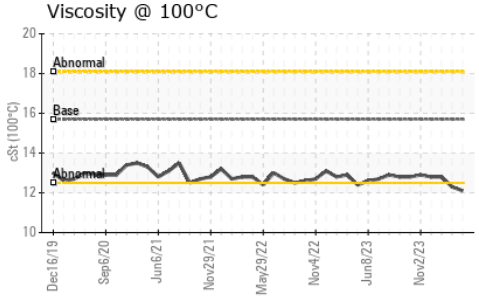
FT-IR (Direct Trend)



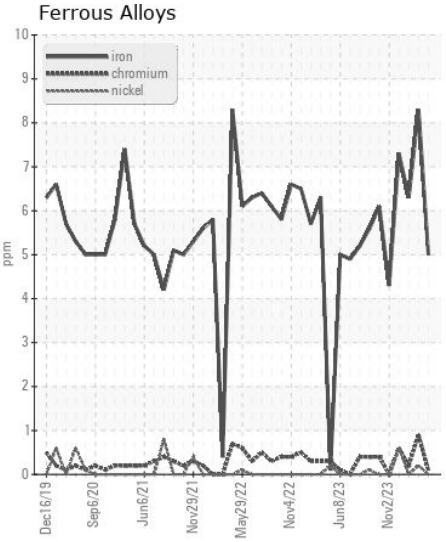
Base Number



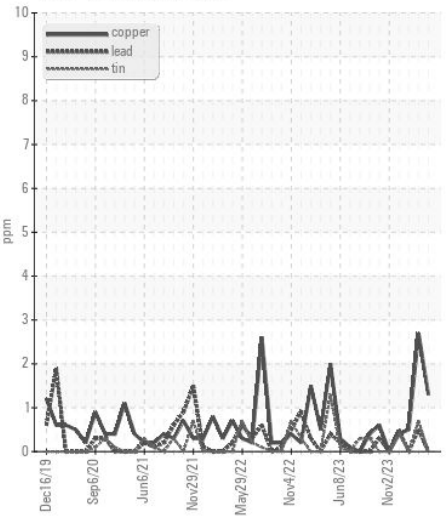
Viscosity @ 100°C



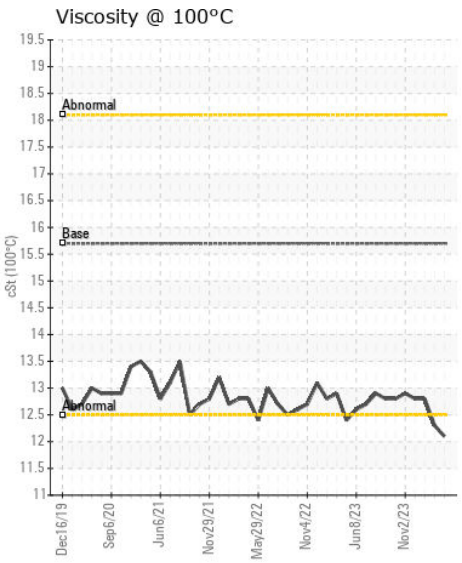
Ferrous Alloys



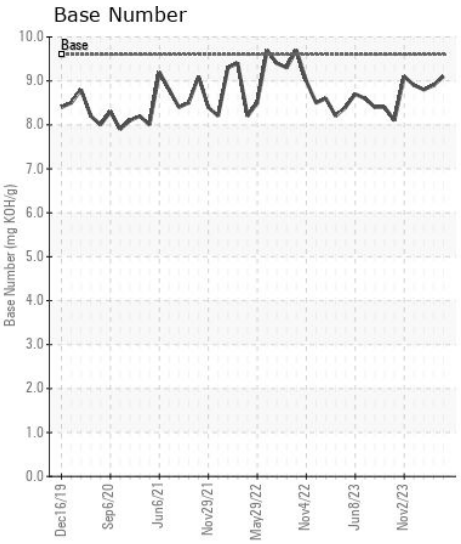
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0066015
Lab Number : 06219162
Unique Number : 11097359
Test Package : MAR 2

Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - Wes Davis

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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