MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
TODD BROWN
Machine Id
[TODD BROWN] 008 587214-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 LE 15W40 (3 GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

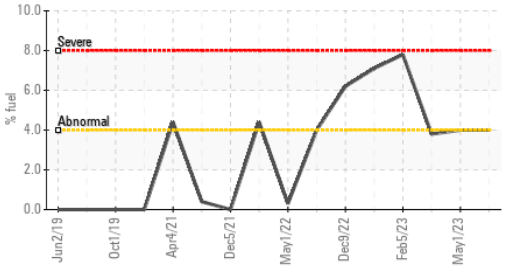
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

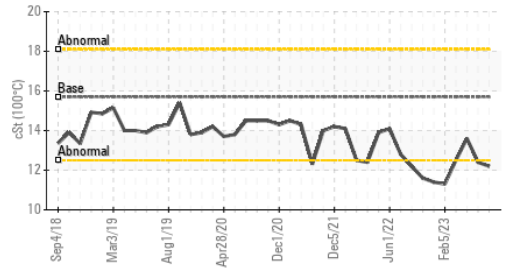
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0042519	MW0042523	MW0042980
Sample Date		Client Info		01 Nov 2023	01 May 2023	31 Mar 2023
Machine Age	hrs	Client Info		22737	22102	21974
Oil Age	hrs	Client Info		0	128	0
Filter Age	hrs	Client Info		0	128	0
Oil Changed		Client Info		Changed	N/A	Not Changd
Filter Changed		Client Info		Changed	N/A	Not Changd
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	3	6	2
Chromium	ppm	ASTM D5185m	>4	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	4	4
Lead	ppm	ASTM D5185m	>17	0	0	0
Copper	ppm	ASTM D5185m	>70	<1	<1	0
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	6	16	8
Potassium	ppm	ASTM D5185m	>20	<1	0	0
Fuel	%	ASTM D3524	>4.0	▲ 4.0	▲ 4.0	<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	5.6	7.2	5.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	21.9	21.5
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	1	<1
Boron	ppm	ASTM D5185m		308	354	358
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		110	116	112
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		584	580	556
Calcium	ppm	ASTM D5185m		1597	1798	1730
Phosphorus	ppm	ASTM D5185m	1200	611	603	581
Zinc	ppm	ASTM D5185m	1300	728	734	706
Sulfur	ppm	ASTM D5185m	3200	2321	2662	2497
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	16.3	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	8.7	8.7	9.2
Visc @ 100°C	cSt	ASTM D445	15.7	▲ 12.2	12.4	13.6

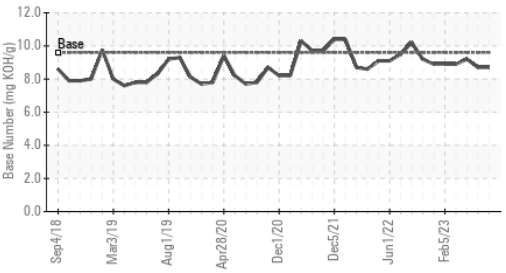
Fuel Dilution



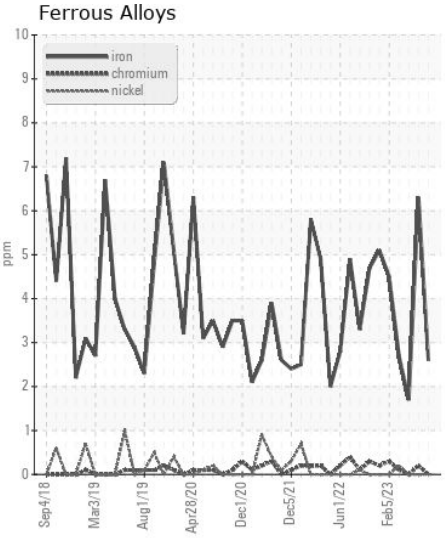
Viscosity @ 100°C



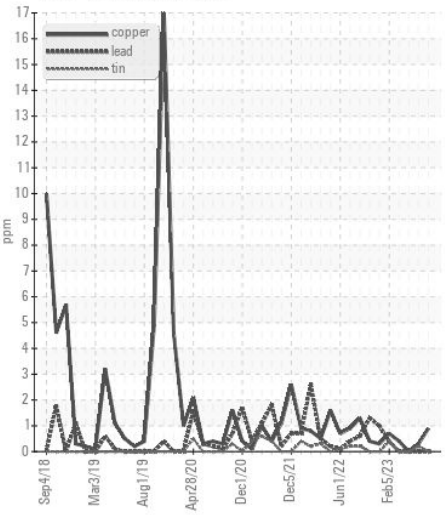
Base Number



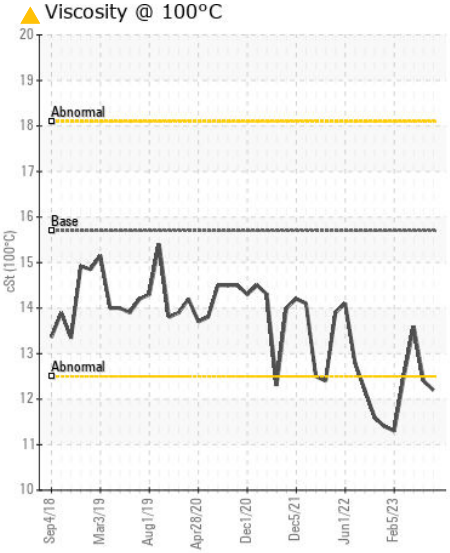
Ferrous Alloys



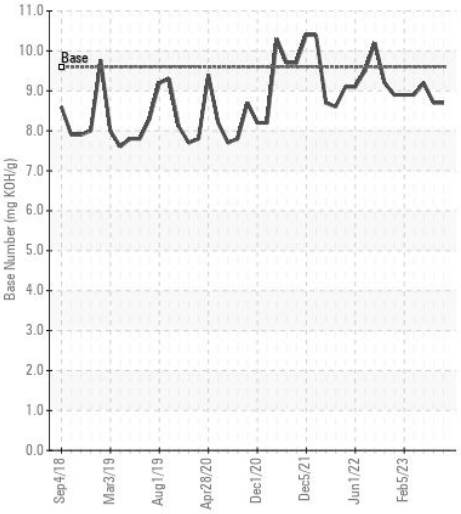
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0042519 **Recieved** : 12 Jan 2024
Lab Number : 06060013 **Diagnosed** : 16 Jan 2024
Unique Number : 10831395 **Diagnostician** : Wes Davis
Test Package : MAR 2 (Additional Tests: PercentFuel)

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)

INGRAM BARGE
900 S 3RD ST
PADUCAH, KY
US 42003
Contact: ANTHONY VAN CURA
anthony.vancura@ingrambarge.com
T: (270)415-4467
F: (615)695-3697