MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
TENNESSEE MERCHANT (S/N 85201420)
Component
Port Genset
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (7 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. 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

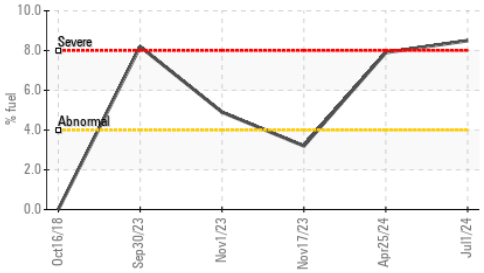
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

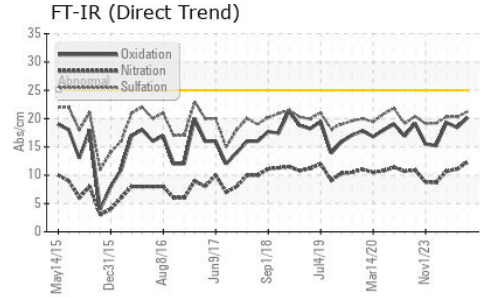
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0044718	MW0044881	MWM731253
Sample Date		Client Info		01 Jul 2024	25 Apr 2024	02 Dec 2023
Machine Age	hrs	Client Info		4281	3760	3348
Oil Age	hrs	Client Info		503	497	363
Filter Age	hrs	Client Info		503	497	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	14	11	7
Chromium	ppm	ASTM D5185m	>4	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		10	10	0
Silver	ppm	ASTM D5185m	>5	0	<1	0
Aluminum	ppm	ASTM D5185m	>12	2	2	2
Lead	ppm	ASTM D5185m	>17	<1	<1	0
Copper	ppm	ASTM D5185m	>70	<1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	15	7	6
Potassium	ppm	ASTM D5185m	>20	4	5	<1
Fuel	%	ASTM D3524	>4.0	▲ 8.5	▲ 7.9	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	12.3	11.1	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	20.3	20.3
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		3	3	28
Boron	ppm	ASTM D5185m	151	55	78	1
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	45	50	56
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m	0	695	635	915
Calcium	ppm	ASTM D5185m	2046	1428	1351	1077
Phosphorus	ppm	ASTM D5185m	1043	683	729	1021
Zinc	ppm	ASTM D5185m	943	831	772	1233
Sulfur	ppm	ASTM D5185m	5012	3405	3024	2990
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.2	18.4	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	6.0	6.7	6.6
Visc @ 100°C	cSt	ASTM D445	14.4	12.5	▲ 12.2	12.7

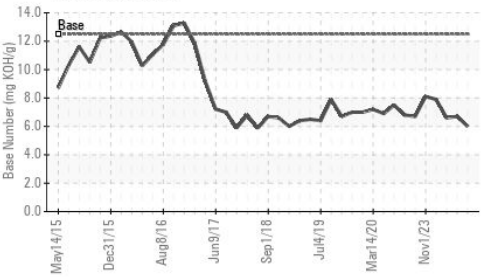
Fuel Dilution



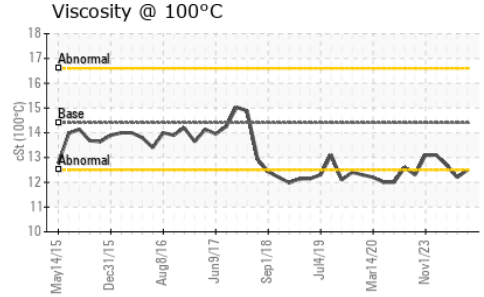
FT-IR (Direct Trend)



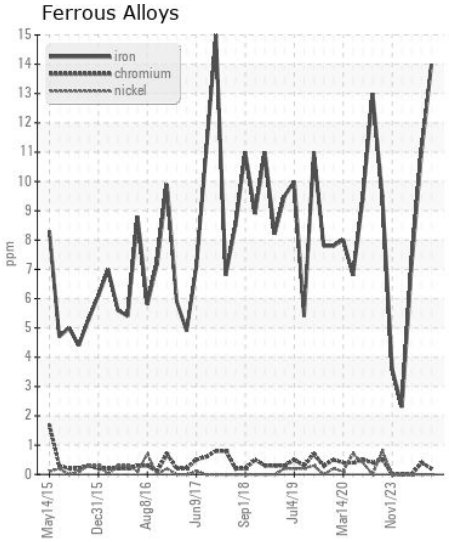
Base Number



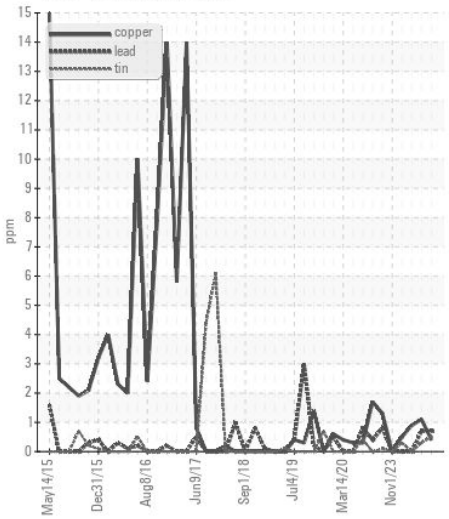
Viscosity @ 100°C



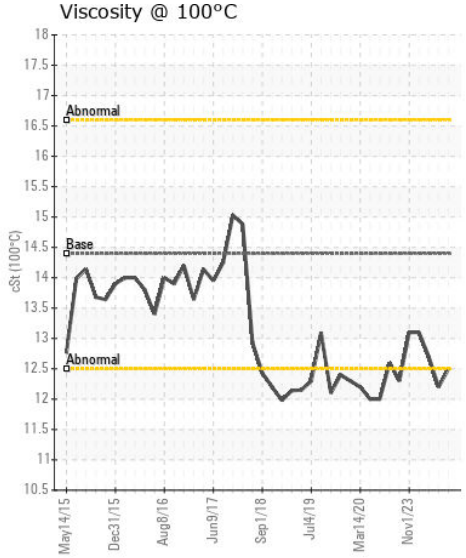
Ferrous Alloys



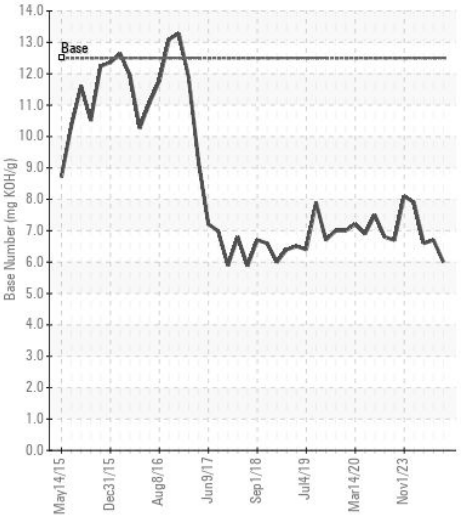
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0044718
Lab Number : 06234434
Unique Number : 11123268
Test Package : MAR 2 (Additional Tests: PercentFuel)

Received : 12 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 16 Jul 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)

AMERICAN COMMERCIAL LINES
PO BOX 610, 1701 E. MARKET STREET
JEFFERSONVILLE, IN
US 47130
Contact: RONALD SCHNEIDER
ronald.schneider@bargeacbl.com
T:
F: (812)288-1644