MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
LOUISIANA LAGNIAPPE
Component
Port Main Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (40 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

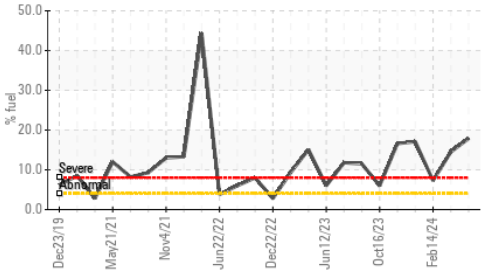
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

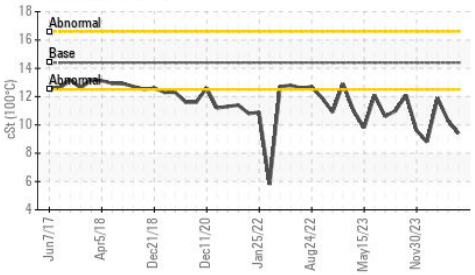
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0064950	MW0042716	MW0057243
Sample Date		Client Info		14 Jun 2024	11 Apr 2024	14 Feb 2024
Machine Age	hrs	Client Info		16456	15031	13802
Oil Age	hrs	Client Info		3428	1510	295
Filter Age	hrs	Client Info		3428	1510	295
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				SEVERE	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>75	12	16	5
Chromium	ppm	ASTM D5185m	>8	1	1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	7	9	10
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	1	2
Lead	ppm	ASTM D5185m	>18	14	22	2
Copper	ppm	ASTM D5185m	>80	<1	<1	<1
Tin	ppm	ASTM D5185m	>14	0	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	3	3	3
Potassium	ppm	ASTM D5185m	>20	4	1	5
Fuel	%	ASTM D3524	>4.0	▲ 17.9	▲ 14.5	▲ 7.3
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.5	0.5	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.0	10.7	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	20.5	18.5
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	>75	3	6	0
Boron	ppm	ASTM D5185m	151	40	56	105
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	17	21	22
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	0	505	508	488
Calcium	ppm	ASTM D5185m	2046	1231	1451	1297
Phosphorus	ppm	ASTM D5185m	1043	598	654	665
Zinc	ppm	ASTM D5185m	943	699	719	718
Sulfur	ppm	ASTM D5185m	5012	2256	2979	2657
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.5	17.9	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	6.2	6.5	8.1
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 9.4	▲ 10.3	▲ 11.9

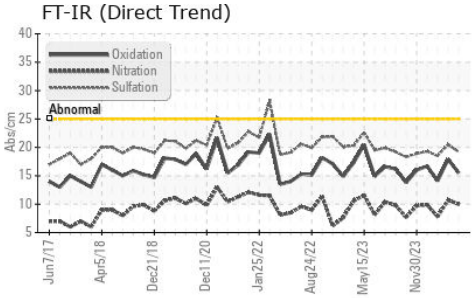
Fuel Dilution



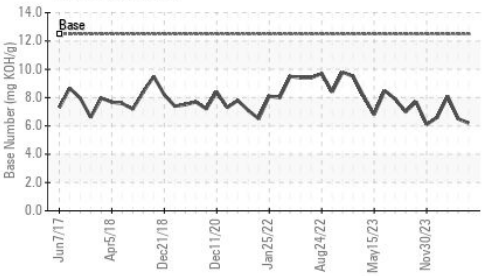
Viscosity @ 100°C



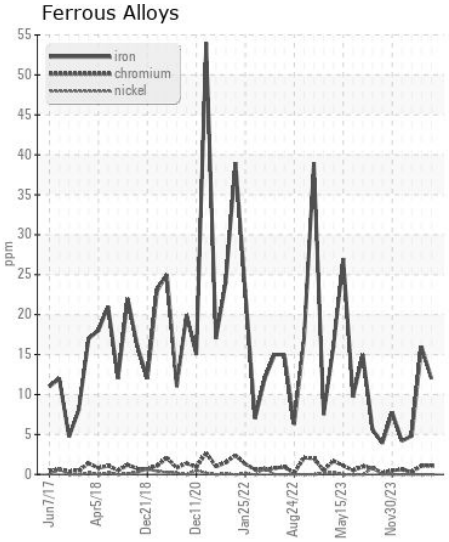
FT-IR (Direct Trend)



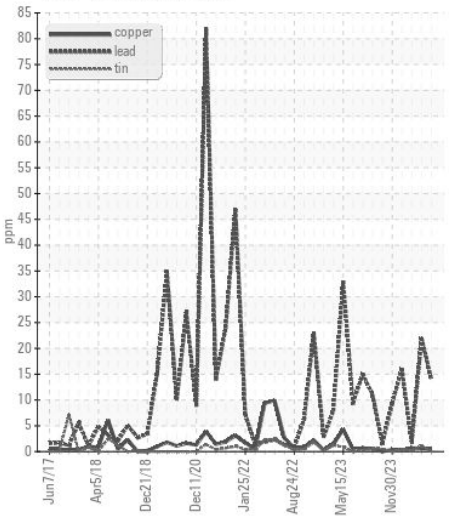
Base Number



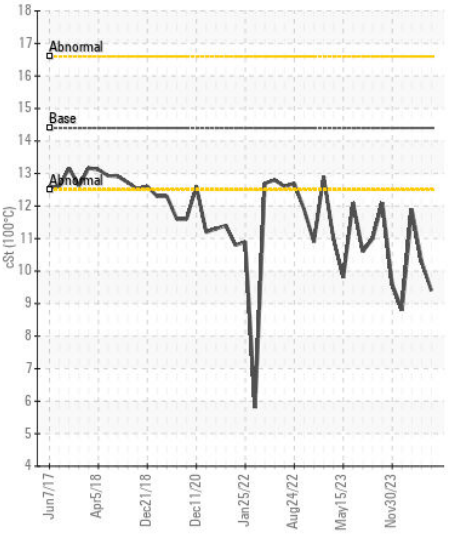
Ferrous Alloys



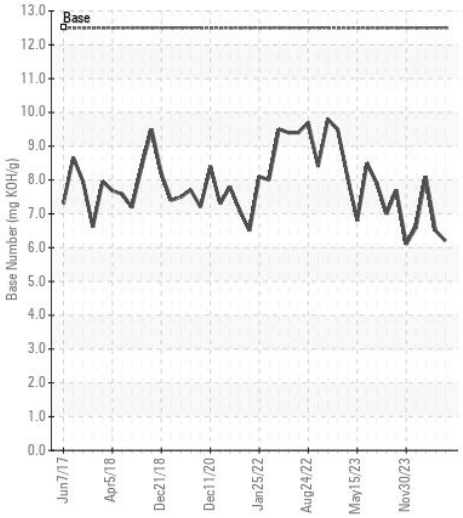
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0064950
Lab Number : 06214200
Unique Number : 11087064
Test Package : MAR 2 (Additional Tests: PercentFuel)

Received : 19 Jun 2024
Tested : 21 Jun 2024
Diagnosed : 21 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)

AMERICAN RIVER TRANSPORTATION CO
8400 RIVER RD, PO BOX 656
WESTWEGO, LA
US 70094-2317
Contact: KEVIN CHIASSON
kevin.chiasson@adm.com
T:
F: