



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LOUISIANA LAGNIAPPE

Component
Starboard Main Engine

Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (44 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0064951	MW0042717	MW0057244
Sample Date		Client Info		14 Jun 2024	11 Apr 2024	14 Feb 2024
Machine Age	hrs	Client Info		10421	8993	7764
Oil Age	hrs	Client Info		3425	1510	295
Filter Age	hrs	Client Info		3425	1510	295
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	15	21	8
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	9	11	11
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	1	2
Lead	ppm	ASTM D5185m	>18	2	3	<1
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

CONTAMINATION

There is no indication of any contamination in the oil.

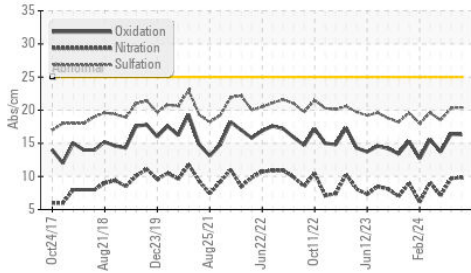
Silicon	ppm	ASTM D5185m	>20	4	4	3
Potassium	ppm	ASTM D5185m	>20	4	2	5
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.4	0.5	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.8	9.7	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	20.3	18.5
Silt	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

FLUID CONDITION

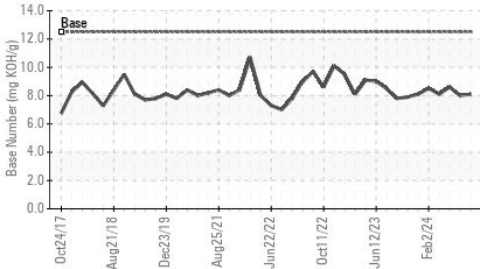
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	3	6	0
Boron	ppm	ASTM D5185m	151	78	83	119
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	24	25	23
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	0	640	623	530
Calcium	ppm	ASTM D5185m	2046	1568	1744	1407
Phosphorus	ppm	ASTM D5185m	1043	790	785	722
Zinc	ppm	ASTM D5185m	943	914	867	779
Sulfur	ppm	ASTM D5185m	5012	2972	3576	2890
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.3	16.4	13.7
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	8.1	8.0	8.6
Visc @ 100°C	cSt	ASTM D445	14.4	13.3	13.4	12.9

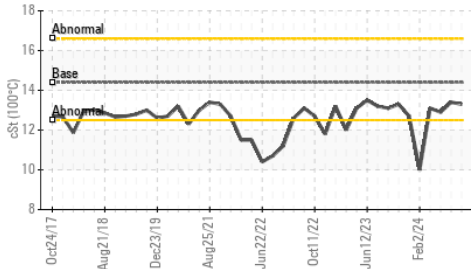
FT-IR (Direct Trend)



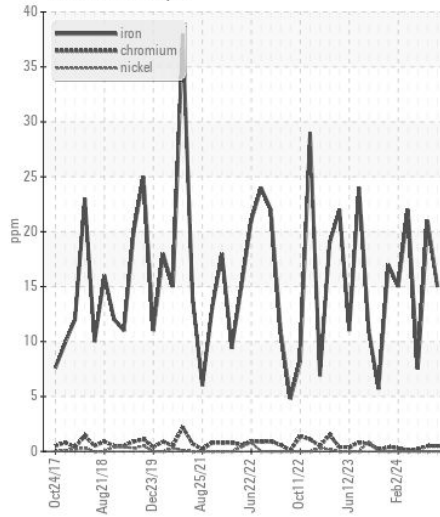
Base Number



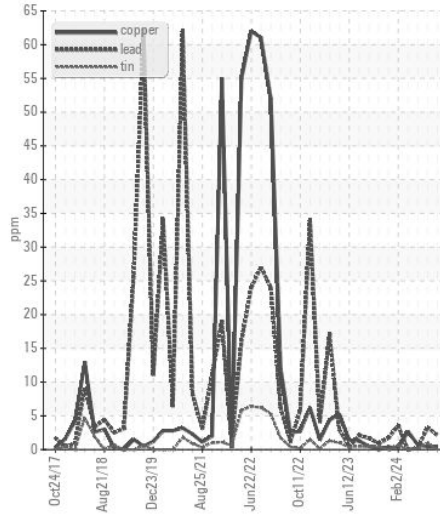
Viscosity @ 100°C



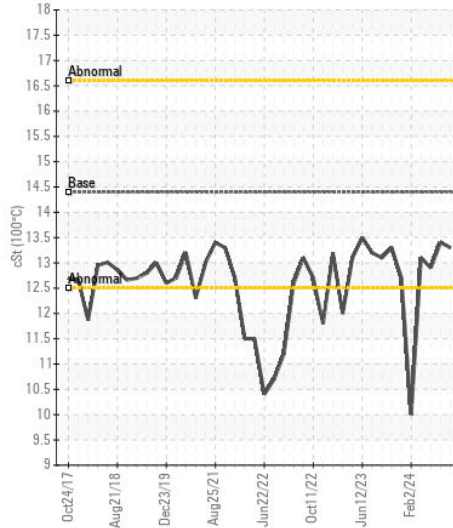
Ferrous Alloys



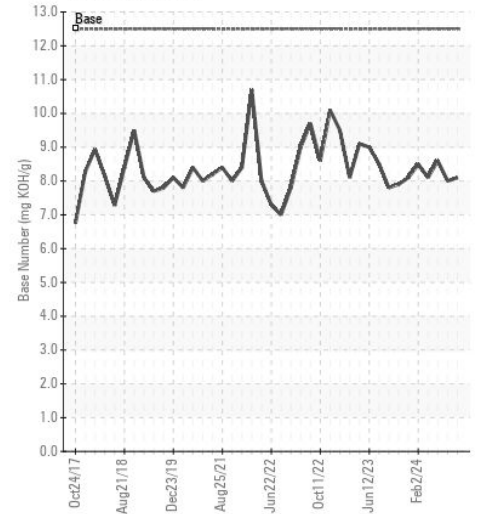
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0064951
Lab Number : 06214199
Unique Number : 11087063
Test Package : MAR 2

Received : 19 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 2024 - Sean Felton

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

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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F: