



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LOUISIANA PARADISE

Component
Starboard Main Engine

Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (38 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0052249	MW0003426	MW0003491
Sample Date		Client Info		27 Dec 2023	09 Oct 2023	01 Aug 2023
Machine Age	hrs	Client Info		9186	7433	5847
Oil Age	hrs	Client Info		1777	3629	2035
Filter Age	hrs	Client Info		1777	1750	2035
Oil Changed		Client Info		Not Chngd	Changed	Not Chngd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	8	27	21
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	10	11	11
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	<1	1	3
Lead	ppm	ASTM D5185m	>18	2	4	2
Copper	ppm	ASTM D5185m	>80	<1	2	2
Tin	ppm	ASTM D5185m	>14	2	2	2
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

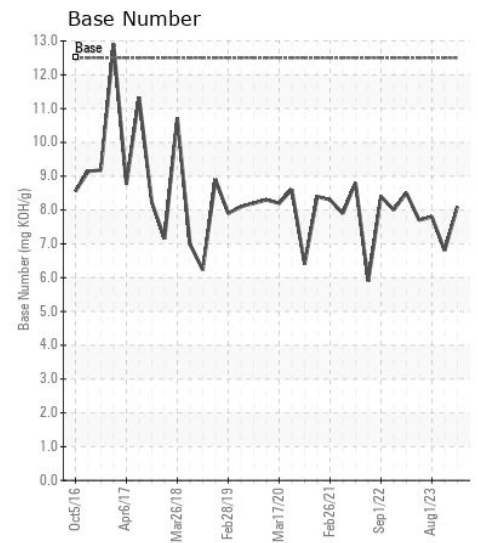
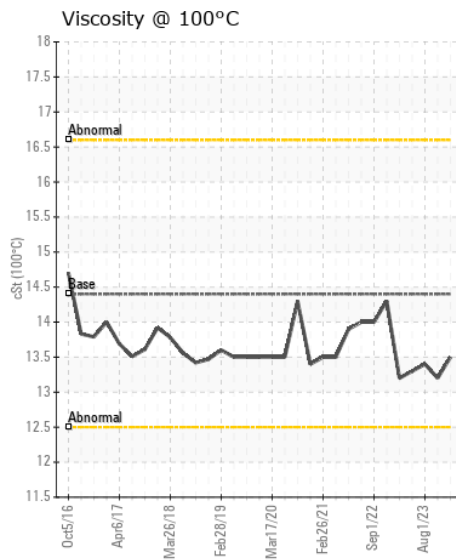
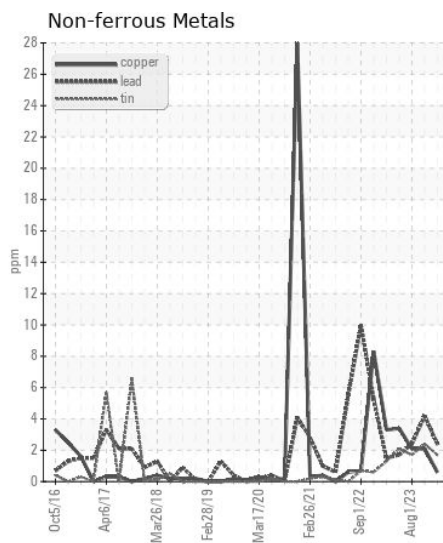
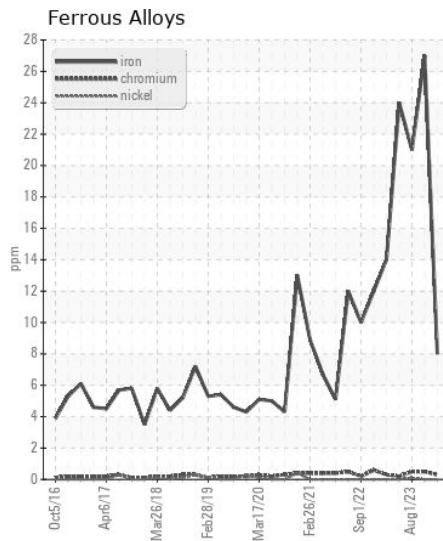
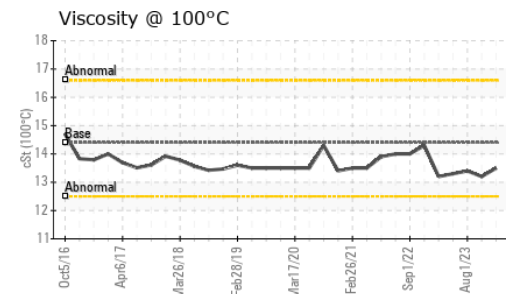
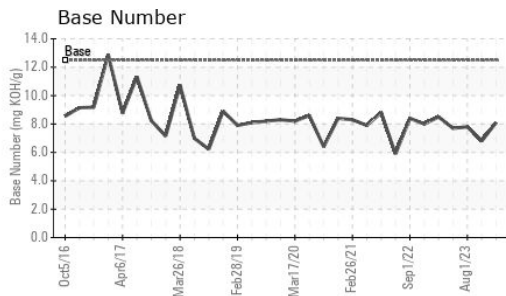
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	6	7
Potassium	ppm	ASTM D5185m	>20	2	4	4
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		0.2	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	7.4	9.0	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	19.3	19.4
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	10	10	9
Boron	ppm	ASTM D5185m	151	104	43	62
Barium	ppm	ASTM D5185m	0.4	0	<1	0
Molybdenum	ppm	ASTM D5185m	250	23	23	26
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	550	491	514
Calcium	ppm	ASTM D5185m	2046	1913	1690	1713
Phosphorus	ppm	ASTM D5185m	1043	872	755	760
Zinc	ppm	ASTM D5185m	943	1066	892	934
Sulfur	ppm	ASTM D5185m	5012	3778	3016	3398
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	14.2	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	8.1	6.8	7.8
Visc @ 100°C	cSt	ASTM D445	14.4	13.5	13.2	13.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0052249 **Received** : 12 Jan 2024
Lab Number : 06058945 **Diagnosed** : 15 Jan 2024
Unique Number : 10830327 **Diagnostician** : Don Baldrige
Test Package : MAR 2

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: