



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area  
**HARVEST PRIDE**

Machine Id  
**HPR**

Component  
**Starboard Main Engine**

Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (50 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0063884</b>	MW0054624	MW0054551
Sample Date		Client Info		<b>09 Feb 2024</b>	28 Dec 2023	14 Nov 2023
Machine Age	hrs	Client Info		<b>34746</b>	35894	35060
Oil Age	hrs	Client Info		<b>852</b>	834	857
Filter Age	hrs	Client Info		<b>852</b>	834	857
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>2</b>	3	3
Chromium	ppm	ASTM D5185m	>8	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>17</b>	15	17
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	1	1
Lead	ppm	ASTM D5185m	>18	<b>&lt;1</b>	1	0
Copper	ppm	ASTM D5185m	>80	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m	>14	<b>0</b>	1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

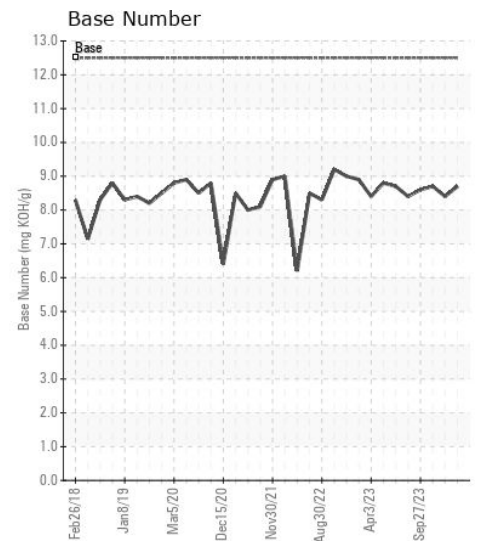
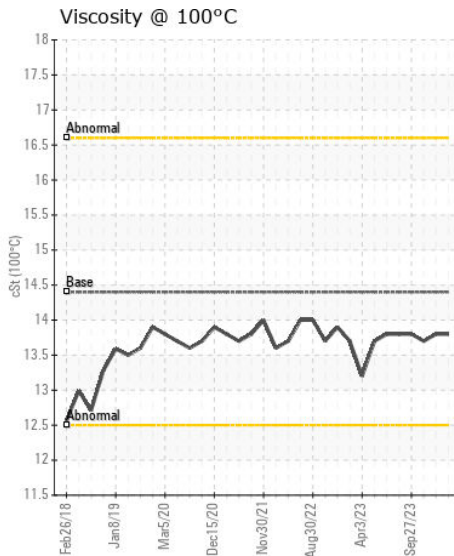
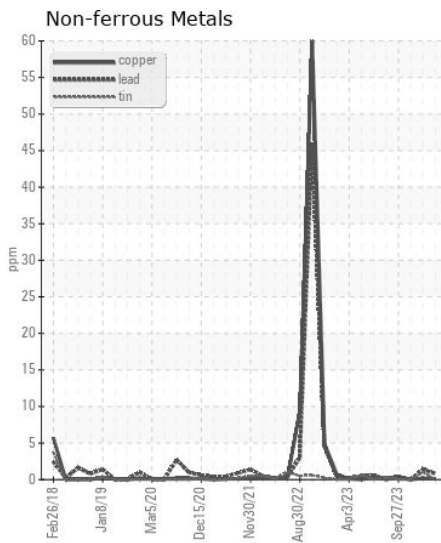
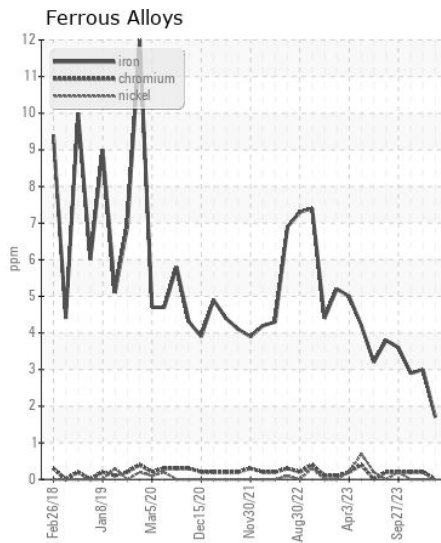
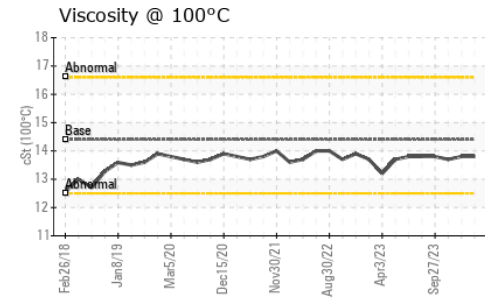
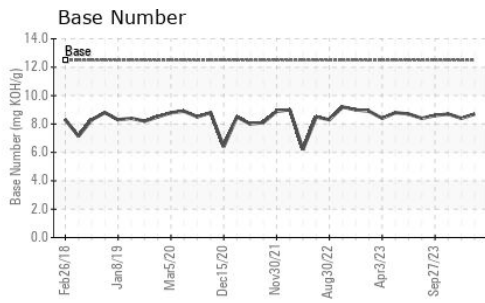
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	4
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.4</b>	7.3	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.9</b>	18.1	17.8
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	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	<b>3</b>	2	<1
Boron	ppm	ASTM D5185m	151	<b>106</b>	95	104
Barium	ppm	ASTM D5185m	0.4	<b>0</b>	0	3
Molybdenum	ppm	ASTM D5185m	250	<b>30</b>	32	29
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	0	<b>781</b>	824	677
Calcium	ppm	ASTM D5185m	2046	<b>1577</b>	1689	1424
Phosphorus	ppm	ASTM D5185m	1043	<b>749</b>	784	670
Zinc	ppm	ASTM D5185m	943	<b>846</b>	959	771
Sulfur	ppm	ASTM D5185m	5012	<b>3254</b>	3654	3144
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.6</b>	12.4	12.4
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>8.7</b>	8.4	8.7
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.8</b>	13.8	13.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0063884  
**Lab Number** : 06099005  
**Unique Number** : 10897235  
**Test Package** : MAR 2

**Received** : 23 Feb 2024  
**Tested** : 26 Feb 2024  
**Diagnosed** : 26 Feb 2024 - Don Baldrige

**AMERICAN RIVER TRANSPORTATION CO.**  
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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)