



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

Area  
**GST**  
Machine Id  
**GST**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LS (300 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060874</b>	MW0060865	MW0054950
Sample Date		Client Info		<b>22 Apr 2024</b>	16 Nov 2023	29 Sep 2023
Machine Age	hrs	Client Info		<b>76522</b>	72548	71525
Oil Age	hrs	Client Info		<b>1200</b>	2501	1453
Filter Age	hrs	Client Info		<b>1200</b>	1328	250
Oil Changed		Client Info		<b>Changed</b>	Not Changed	Not 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>12</b>	12	26
Chromium	ppm	ASTM D5185m	>8	<b>1</b>	<1	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>18	<b>3</b>	2	3
Copper	ppm	ASTM D5185m	>80	<b>6</b>	6	7
Tin	ppm	ASTM D5185m	>14	<b>3</b>	3	5
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

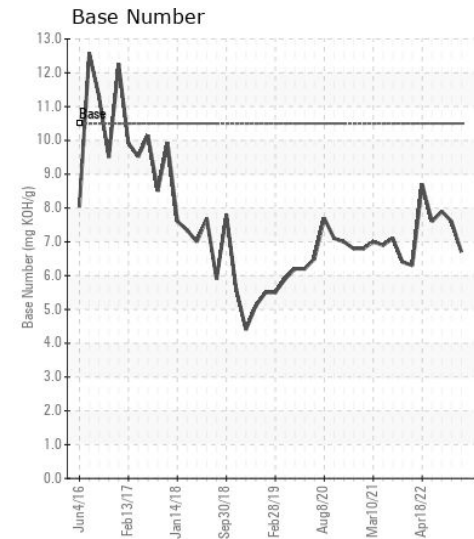
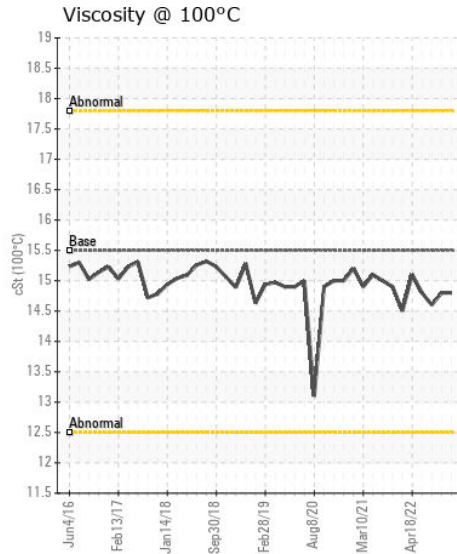
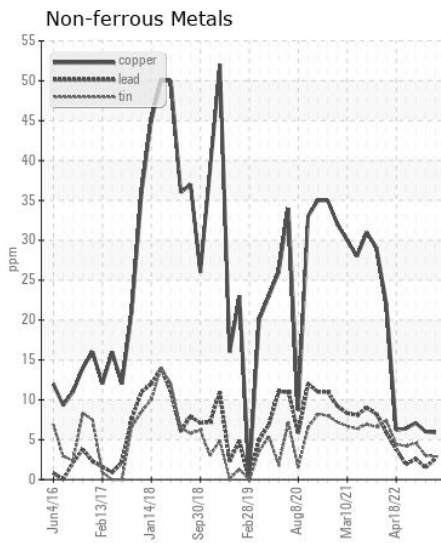
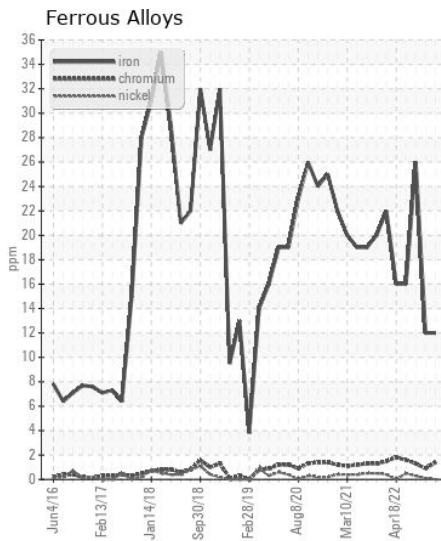
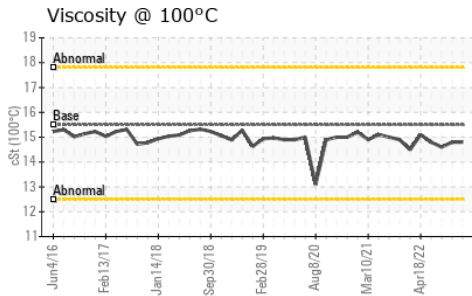
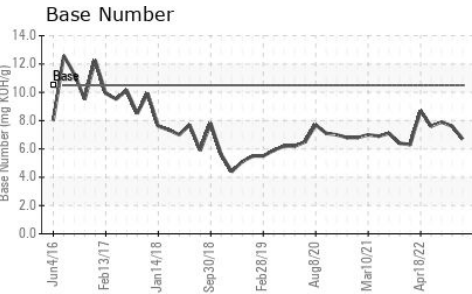
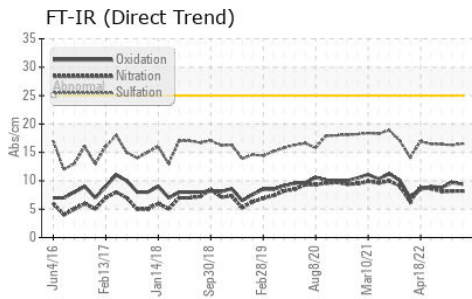
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>3</b>	4	7
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	1	3
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	>3	<b>0.6</b>	0.4	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.2</b>	8.2	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.5</b>	16.3	16.4
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>2</b>	7	37
Boron	ppm	ASTM D5185m		<b>39</b>	38	39
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>45</b>	41	40
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>9</b>	11	13
Calcium	ppm	ASTM D5185m		<b>3536</b>	3451	3436
Phosphorus	ppm	ASTM D5185m		<b>3</b>	4	4
Zinc	ppm	ASTM D5185m		<b>0</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2424</b>	2318	2383
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.4</b>	9.7	8.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>6.7</b>	7.6	7.9
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.8</b>	14.8	14.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0060874  
**Lab Number** : 06194798  
**Unique Number** : 11056921  
**Test Package** : MAR 2

**Received** : 29 May 2024  
**Tested** : 30 May 2024  
**Diagnosed** : 30 May 2024 - Wes Davis

**AMERICAN RIVER TRANSPORTATION CO.**  
 P.O. BOX 2889  
 ST. LOUIS, MO  
 US 63111  
 Contact: BRIAN GRIEWING  
 brian.griewing@adm.com  
 T:  
 F: (314)481-5278

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)