



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

Area  
**CEN**  
Machine Id  
**CEN (S/N 10-B1-1007)**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LS (350 GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060936</b>	MW0061135	MW0060906
Sample Date		Client Info		<b>29 Jun 2024</b>	05 Dec 2023	28 Nov 2023
Machine Age	hrs	Client Info		<b>9105</b>	6000	94564
Oil Age	hrs	Client Info		<b>1100</b>	6000	1351
Filter Age	hrs	Client Info		<b>1100</b>	1200	1351
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>23</b>	31	30
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>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	2	1
Lead	ppm	ASTM D5185m	>18	<b>7</b>	7	7
Copper	ppm	ASTM D5185m	>80	<b>19</b>	23	22
Tin	ppm	ASTM D5185m	>14	<b>3</b>	6	6
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

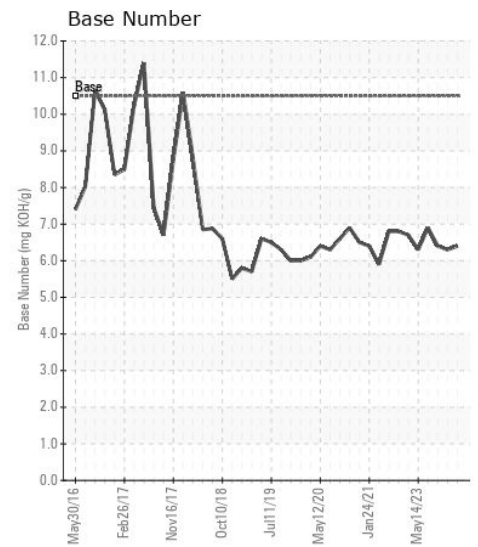
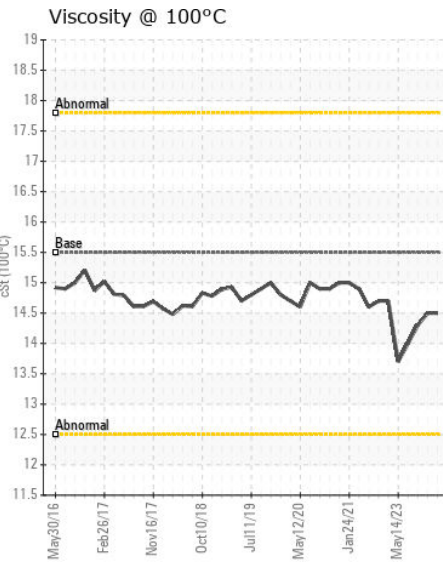
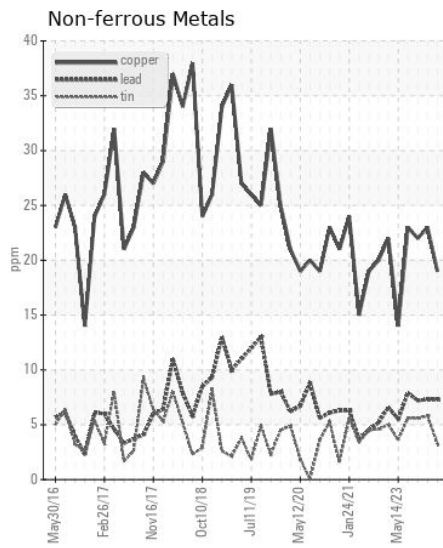
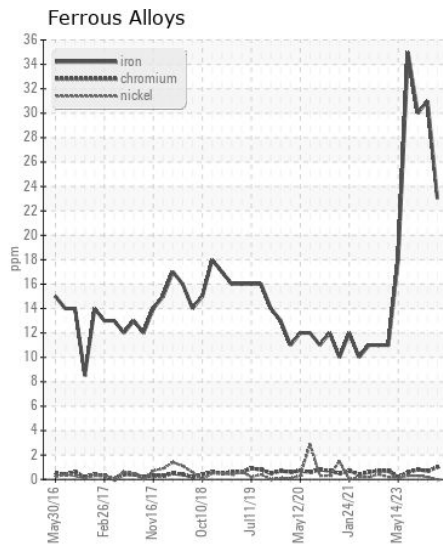
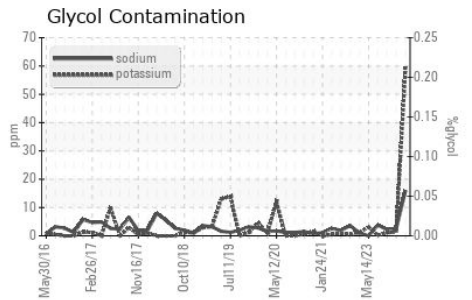
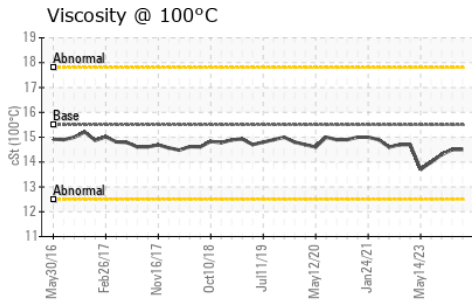
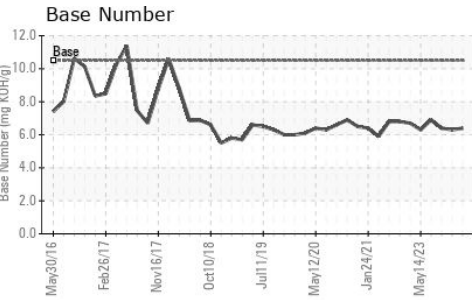
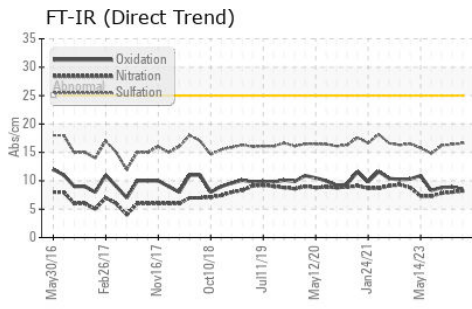
Sodium and/or potassium levels are high. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>20	<b>3</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>59</b>	1	1
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	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.2</b>	8.0	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.6</b>	16.4	16.2
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>16</b>	2	2
Boron	ppm	ASTM D5185m		<b>29</b>	36	34
Barium	ppm	ASTM D5185m		<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m		<b>51</b>	50	43
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>10</b>	8	13
Calcium	ppm	ASTM D5185m		<b>3552</b>	3181	3139
Phosphorus	ppm	ASTM D5185m		<b>6</b>	40	<1
Zinc	ppm	ASTM D5185m		<b>0</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2399</b>	1904	1950
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.5</b>	8.9	8.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>6.4</b>	6.3	6.4
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.5</b>	14.5	14.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0060936  
**Lab Number** : 06234190  
**Unique Number** : 11123024  
**Test Package** : MAR 2 ( Additional Tests: Glycol )

**AMERICAN RIVER TRANSPORTATION CO.**  
 P.O. BOX 2889  
 ST. LOUIS, MO  
 US 63111  
 Contact: BRIAN GRIEWING  
 brian.griewing@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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