



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

Area  
**GATEWAY EXPRESS**

Machine Id

**GEX**

Component

**Starboard Main Engine**

Fluid

**CHEVRON DELO 710 LS (75 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0065126</b>	MW0065107	MW0061014
Sample Date		Client Info		<b>02 Feb 2024</b>	22 Dec 2023	09 Nov 2023
Machine Age	hrs	Client Info		<b>21999</b>	21163	20387
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>14</b>	12	9
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>&lt;1</b>	2	1
Lead	ppm	ASTM D5185m	>18	<b>3</b>	<1	4
Copper	ppm	ASTM D5185m	>80	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m	>14	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

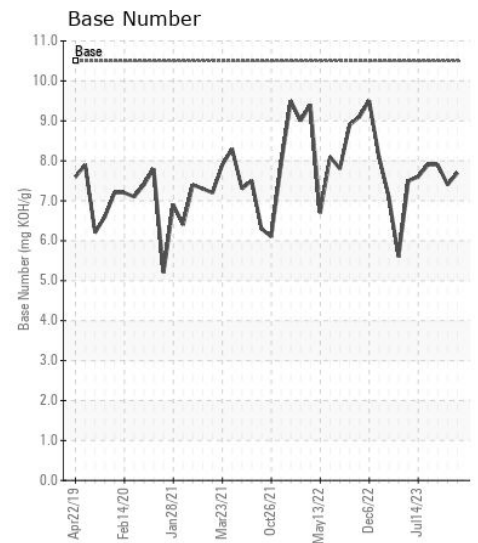
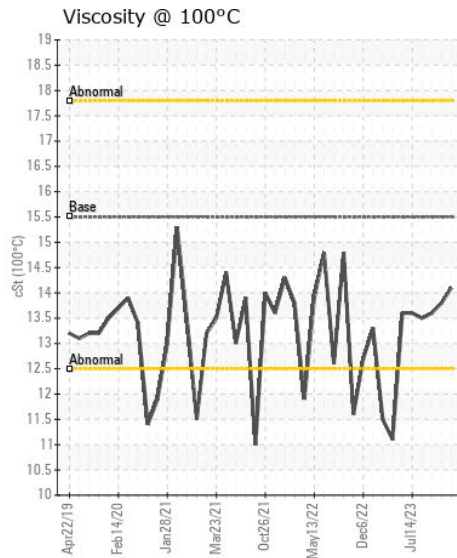
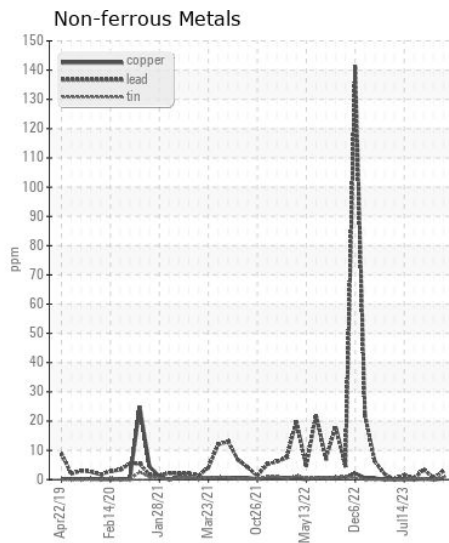
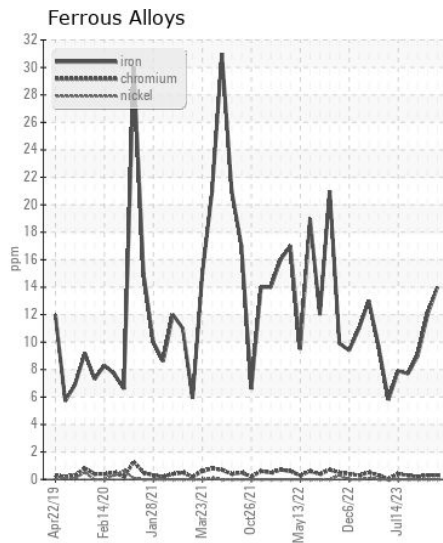
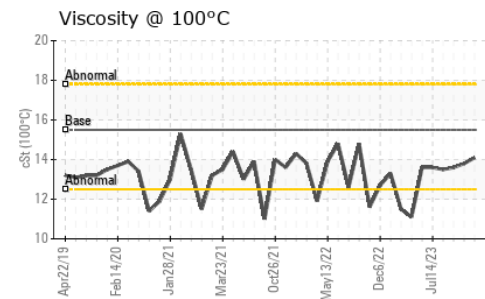
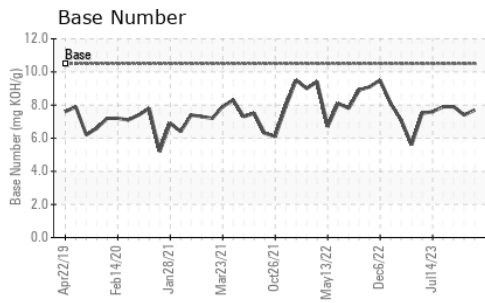
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>2</b>	2	3
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	0
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>0.2</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.6</b>	9.0	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.2</b>	16.5	16.9
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>	0	2
Boron	ppm	ASTM D5185m		<b>41</b>	43	37
Barium	ppm	ASTM D5185m		<b>0</b>	3	0
Molybdenum	ppm	ASTM D5185m		<b>43</b>	42	40
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>9</b>	8	8
Calcium	ppm	ASTM D5185m		<b>3238</b>	3450	3365
Phosphorus	ppm	ASTM D5185m		<b>0</b>	47	0
Zinc	ppm	ASTM D5185m		<b>0</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2122</b>	2681	2203
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.4</b>	11.5	12.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>7.7</b>	7.4	7.9
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.1</b>	13.8	13.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0065126  
**Lab Number** : 06083259  
**Unique Number** : 10870704  
**Test Package** : MAR 2

**Received** : 08 Feb 2024  
**Tested** : 08 Feb 2024  
**Diagnosed** : 08 Feb 2024 - Wes Davis

**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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