



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

Area  
**VQU**  
Machine Id  
**VQU**  
Component  
**Center Main Engine**  
Fluid  
**CHEVRON DELO 710 LS (350 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060723</b>	MW0060714	MW0039990
Sample Date		Client Info		<b>04 Feb 2024</b>	18 Dec 2023	08 Nov 2023
Machine Age	hrs	Client Info		<b>100219</b>	9983	1200
Oil Age	hrs	Client Info		<b>1136</b>	10284	9315
Filter Age	hrs	Client Info		<b>1136</b>	884	1200
Oil Changed		Client Info		<b>Not Chngd</b>	Changed	Not Chngd
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	SEVERE	SEVERE

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>20</b>	▲ 69	▲ 73
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	1	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	2	2
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	● 6	● 6
Lead	ppm	ASTM D5185m	>18	<b>5</b>	▲ 22	▲ 25
Copper	ppm	ASTM D5185m	>80	<b>15</b>	▲ 62	▲ 69
Tin	ppm	ASTM D5185m	>14	<b>4</b>	11	11
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.

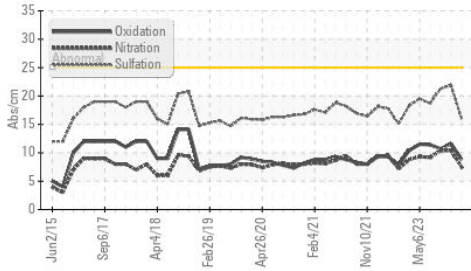
Silicon	ppm	ASTM D5185m	>20	<b>9</b>	▲ 41	▲ 47
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	▲ 11	▲ 14
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	1.5	1.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.5</b>	10.4	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.0</b>	21.9	21.3
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**

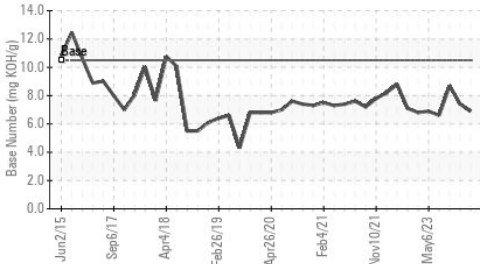
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>68</b>	▲ 399	▲ 487
Boron	ppm	ASTM D5185m		<b>48</b>	97	103
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>44</b>	45	44
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	2	2
Magnesium	ppm	ASTM D5185m		<b>14</b>	24	24
Calcium	ppm	ASTM D5185m		<b>3356</b>	3340	3435
Phosphorus	ppm	ASTM D5185m		<b>4</b>	4	5
Zinc	ppm	ASTM D5185m		<b>2</b>	4	<1
Sulfur	ppm	ASTM D5185m		<b>2457</b>	2197	2293
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.8</b>	11.6	10.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>6.9</b>	7.4	8.7
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.4</b>	14.8	14.8

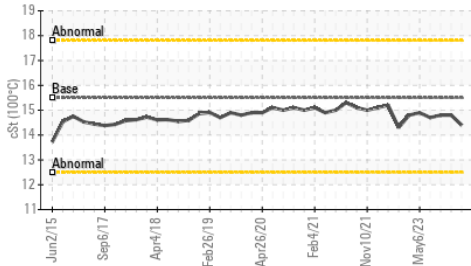
**FT-IR (Direct Trend)**



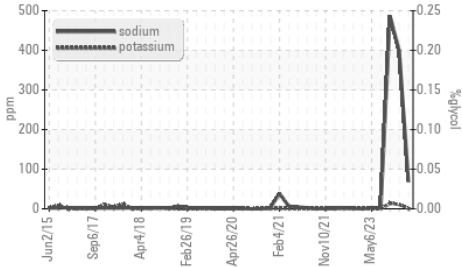
**Base Number**



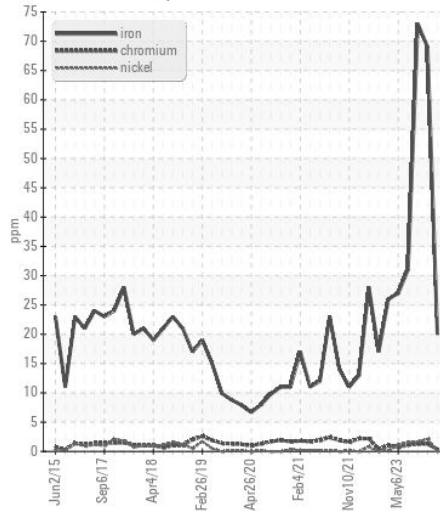
**Viscosity @ 100°C**



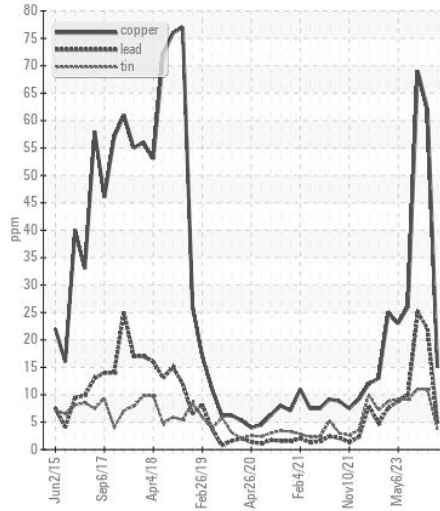
**Glycol Contamination**



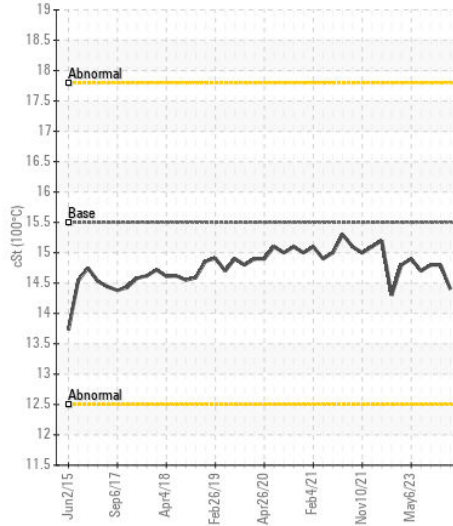
**Ferrous Alloys**



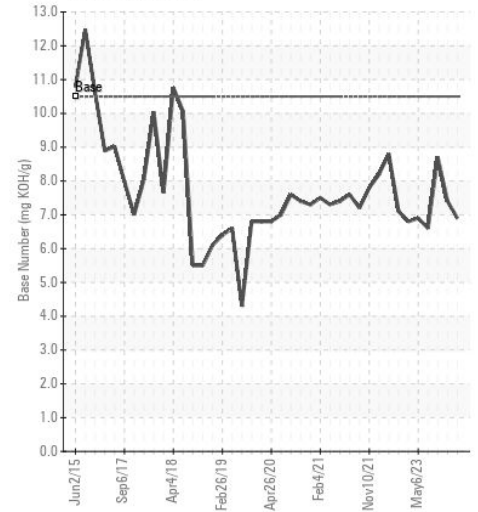
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0060723  
**Lab Number** : 06153931  
**Unique Number** : 10989354  
**Test Package** : MAR 2 ( Additional Tests: Glycol )

**AMERICAN RIVER TRANSPORTATION CO.**  
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 US 63111  
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 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)