



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

**RECOMMENDATION**

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060721</b>	MW0060713	MW0039984
Sample Date		Client Info		<b>15 Feb 2024</b>	24 Dec 2023	28 Oct 2023
Machine Age	hrs	Client Info		<b>106996</b>	103749	10837
Oil Age	hrs	Client Info		<b>3806</b>	2560	1171
Filter Age	hrs	Client Info		<b>1271</b>	1371	1171
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>34</b>	16	12
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	1	0
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>	2	2
Lead	ppm	ASTM D5185m	>18	<b>8</b>	2	2
Copper	ppm	ASTM D5185m	>80	<b>24</b>	14	10
Tin	ppm	ASTM D5185m	>14	<b>10</b>	8	4
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

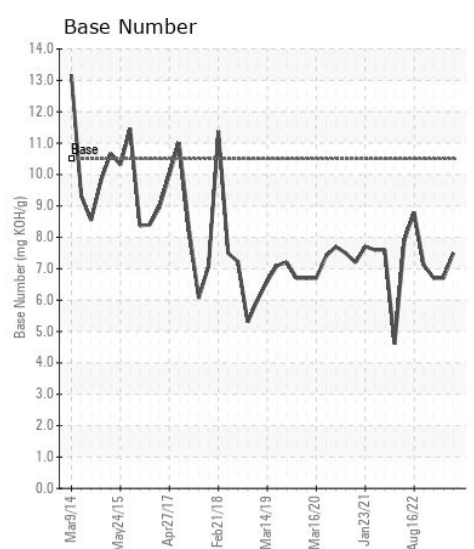
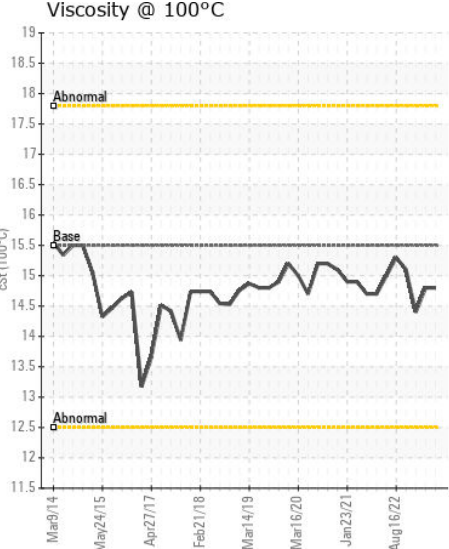
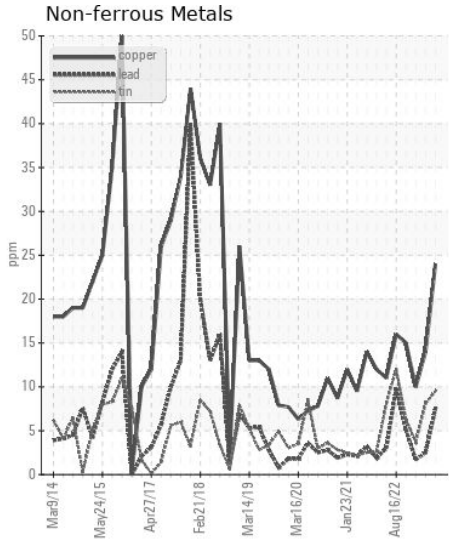
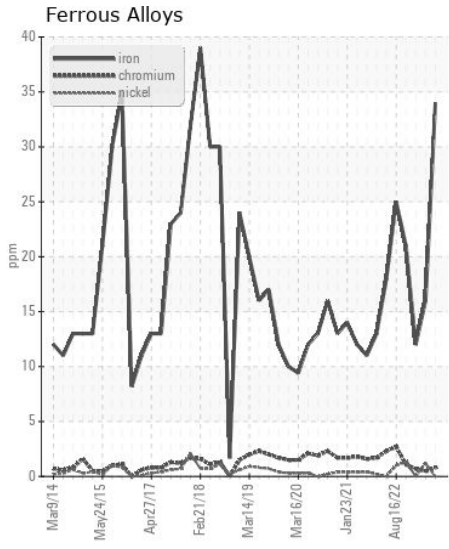
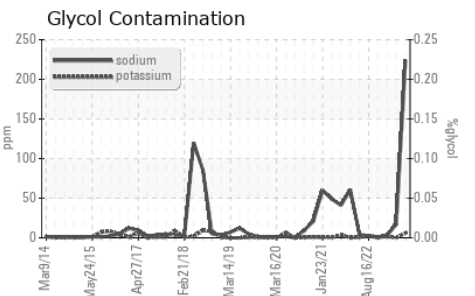
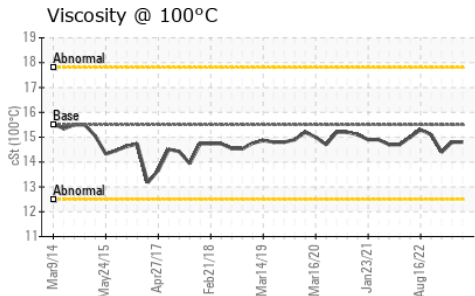
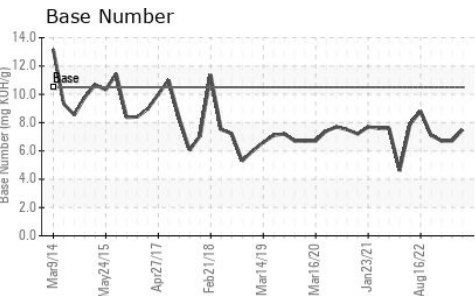
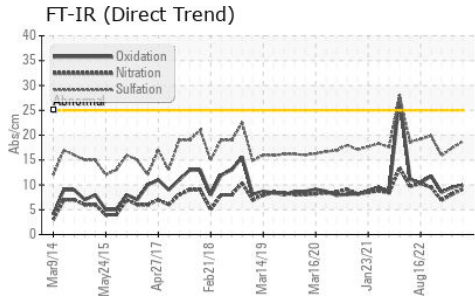
The high sodium (Na) level indicates the possible presence of salt water.

Silicon	ppm	ASTM D5185m	>20	<b>13</b>	3	3
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	0	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>0.9</b>	0.8	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.1</b>	8.1	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.7</b>	17.4	15.9
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>224</b>	17	3
Boron	ppm	ASTM D5185m		<b>70</b>	44	39
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>47</b>	43	40
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>17</b>	16	0
Calcium	ppm	ASTM D5185m		<b>3475</b>	3379	3187
Phosphorus	ppm	ASTM D5185m		<b>4</b>	2	0
Zinc	ppm	ASTM D5185m		<b>2</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2567</b>	2135	1802
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.9</b>	9.5	8.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>7.5</b>	6.7	6.7
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.8</b>	14.8	14.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0060721  
**Lab Number** : 06153928  
**Unique Number** : 10989351  
**Test Package** : MAR 2 ( Additional Tests: Glycol )

**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)