



Machine Id  
**SUL**  
Component  
**Port Main Engine**  
Fluid  
**CHEVRON DELO 400 LE 15W40 (--- GAL)**

**RECOMMENDATION**

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060668</b>	MW0060666	MW0031822
Sample Date		Client Info		<b>13 Jun 2024</b>	23 Feb 2024	05 Jun 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
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>ABNORMAL</b>	ABNORMAL	ABNORMAL

**WEAR**

The lead level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>31</b>	30	47
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
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>4</b>	4	<1
Lead	ppm	ASTM D5185m	>18	<b>▲ 64</b>	▲ 33	▲ 65
Copper	ppm	ASTM D5185m	>80	<b>9</b>	17	16
Tin	ppm	ASTM D5185m	>14	<b>3</b>	3	4
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**

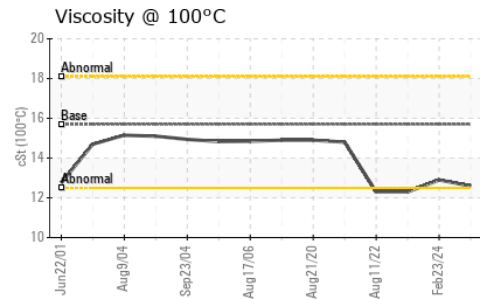
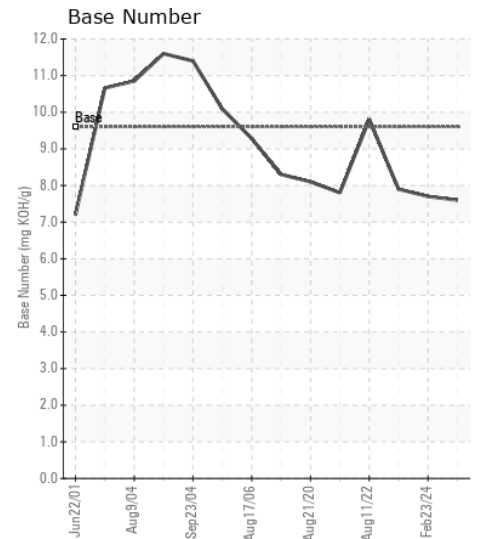
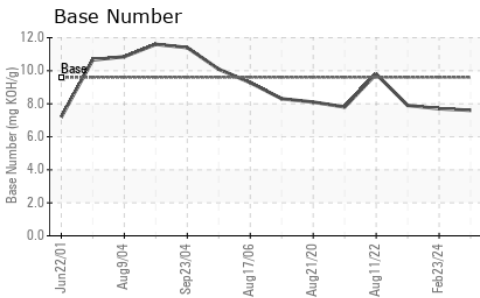
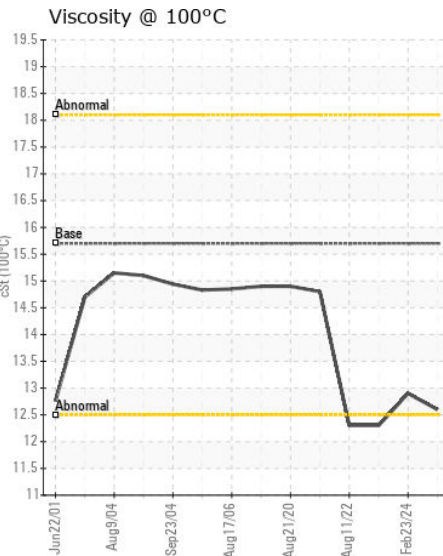
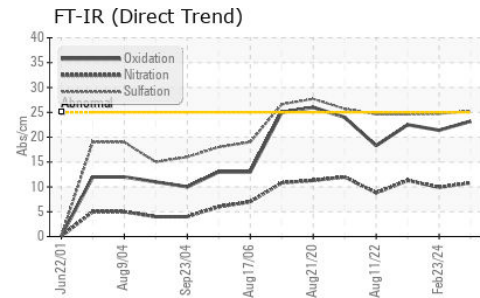
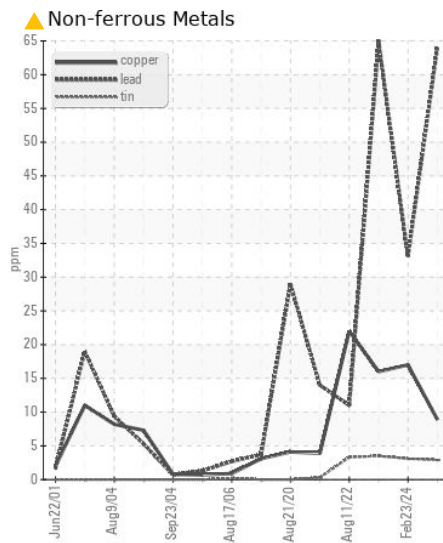
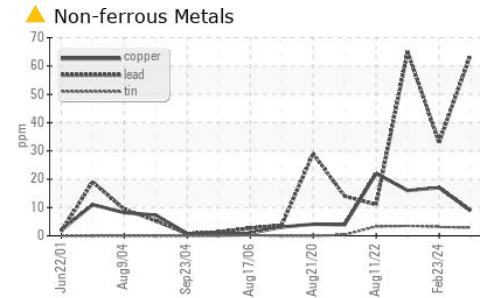
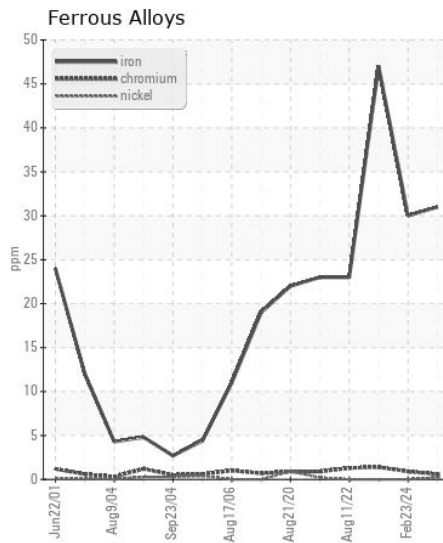
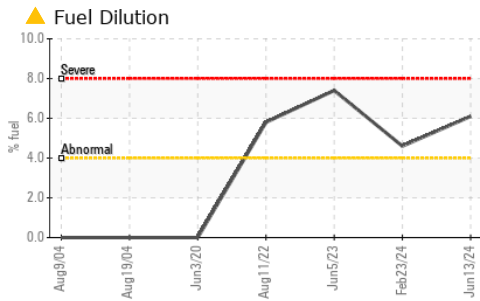
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>7</b>	7	7
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	1	2
Fuel	%	ASTM D3524	>4.0	<b>▲ 6.1</b>	▲ 4.6	▲ 7.4
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.7</b>	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.8</b>	9.9	11.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>25.3</b>	24.7	24.6
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.

Sodium	ppm	ASTM D5185m	>75	<b>3</b>	6	3
Boron	ppm	ASTM D5185m		<b>200</b>	272	200
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>117</b>	123	99
Manganese	ppm	ASTM D5185m		<b>1</b>	1	2
Magnesium	ppm	ASTM D5185m		<b>691</b>	720	651
Calcium	ppm	ASTM D5185m		<b>1497</b>	1561	1555
Phosphorus	ppm	ASTM D5185m	1200	<b>712</b>	732	654
Zinc	ppm	ASTM D5185m	1300	<b>863</b>	884	854
Sulfur	ppm	ASTM D5185m	3200	<b>2755</b>	2445	2834
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>23.2</b>	21.4	22.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>7.6</b>	7.7	7.9
Visc @ 100°C	cSt	ASTM D445	15.7	<b>12.6</b>	12.9	▲ 12.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0060668  
**Lab Number** : 06217624  
**Unique Number** : 11090488  
**Test Package** : MAR 2 ( Additional Tests: PercentFuel )

**AMERICAN RIVER TRANSPORTATION CO.**  
 PO BOX 585  
 CASSVILLE, WI  
 US 53806  
 Contact: Dale Grimshaw  
 Dale.Grimshaw@adm.com  
 T: (608)725-2311  
 F:

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)