



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

Area  
**CARDINAL PRIDE**

Machine Id  
**CPR**  
Component  
**Port Main Engine**

Fluid  
**CHEVRON DELO 710 LS (75 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>MW0065121</b>	MW0065119	MW0065143
Sample Date		Client Info		<b>04 Apr 2024</b>	19 Feb 2024	29 Dec 2023
Machine Age	hrs	Client Info		<b>22394</b>	21595	20509
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>MARGINAL</b>	ABNORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>17</b>	22	13
Chromium	ppm	ASTM D5185m	>8	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>1</b>	2	2
Lead	ppm	ASTM D5185m	>18	<b>4</b>	▲ 21	2
Copper	ppm	ASTM D5185m	>80	<b>0</b>	<1	0
Tin	ppm	ASTM D5185m	>14	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

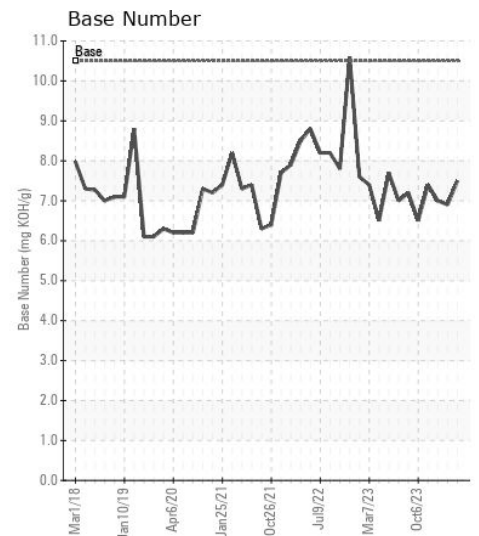
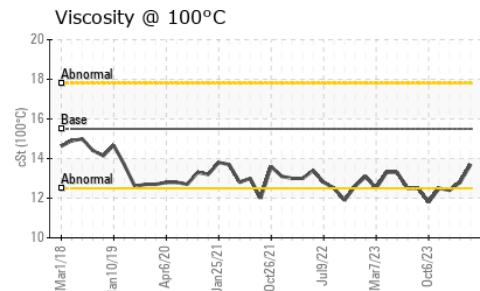
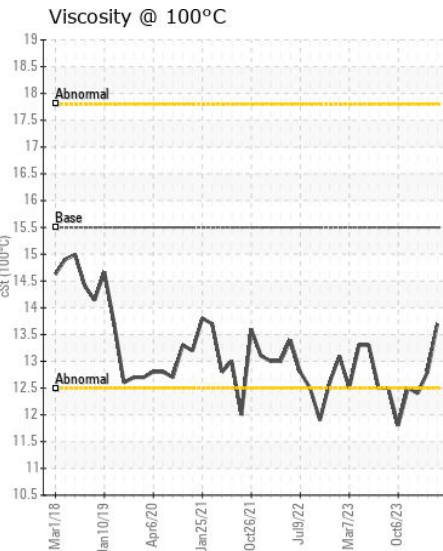
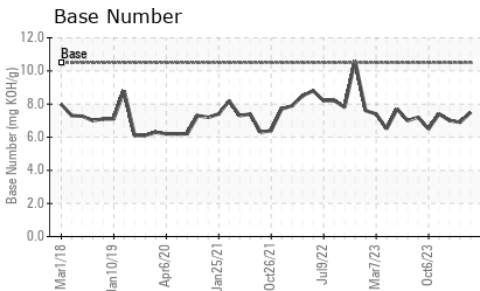
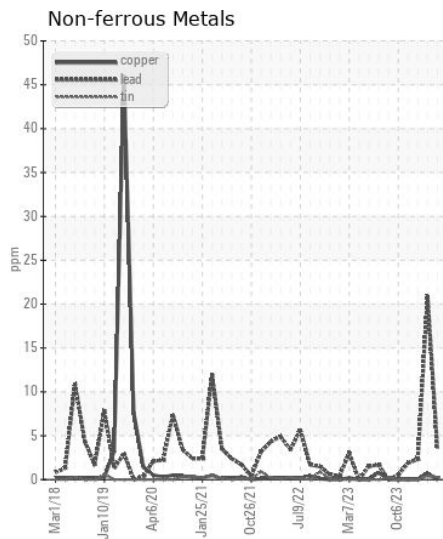
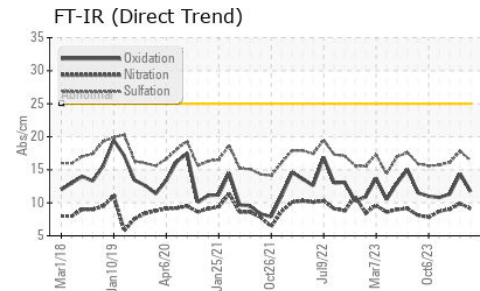
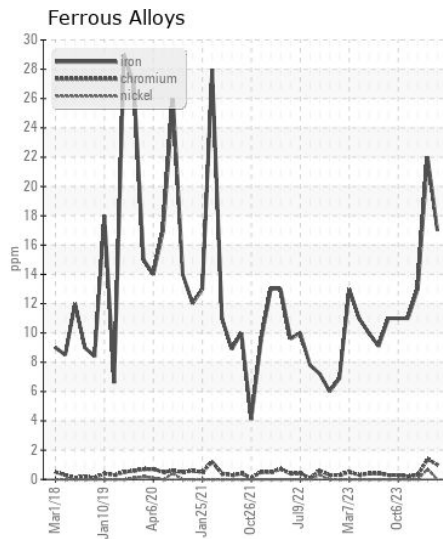
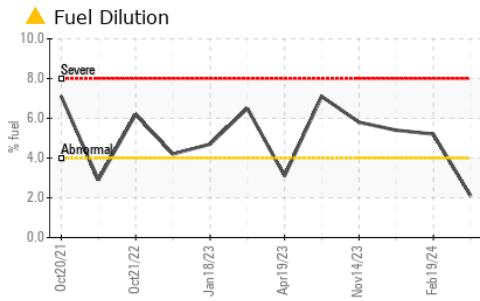
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	4	2
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	4	4
Fuel	%	ASTM D3524	>4.0	▲ <b>2.1</b>	▲ 5.2	▲ 5.4
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>9.1</b>	9.9	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.4</b>	17.8	16.1
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>8</b>	22	24
Boron	ppm	ASTM D5185m		<b>51</b>	42	44
Barium	ppm	ASTM D5185m		<b>0</b>	34	3
Molybdenum	ppm	ASTM D5185m		<b>48</b>	51	47
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>13</b>	9	7
Calcium	ppm	ASTM D5185m		<b>3611</b>	3259	3196
Phosphorus	ppm	ASTM D5185m		<b>&lt;1</b>	37	47
Zinc	ppm	ASTM D5185m		<b>0</b>	28	0
Sulfur	ppm	ASTM D5185m		<b>2566</b>	2282	2213
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>11.7</b>	14.4	11.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>7.5</b>	6.9	7.0
Visc @ 100°C	cSt	ASTM D445	15.5	<b>13.7</b>	12.8	12.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0065121 **Received** : 16 Apr 2024  
**Lab Number** : 06150043 **Tested** : 19 Apr 2024  
**Unique Number** : 10980121 **Diagnosed** : 19 Apr 2024 - Wes Davis  
**Test Package** : MAR 2 ( Additional Tests: PercentFuel )

**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)

T:  
 F: (314)481-5278