



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

Machine Id  
**LOUISIANA HERITAGE**

Component  
**Port Main Engine**

Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (44 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0052233</b>	MW0052126	MW0052251
Sample Date		Client Info		<b>23 May 2024</b>	13 Mar 2024	03 Jan 2024
Machine Age	hrs	Client Info		<b>39111</b>	37615	36094
Oil Age	hrs	Client Info		<b>1531</b>	1515	1553
Filter Age	hrs	Client Info		<b>1531</b>	1515	1553
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	ATTENTION	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>14</b>	15	12
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>3	<b>13</b>	13	13
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>0</b>	1	1
Lead	ppm	ASTM D5185m	>18	<b>8</b>	10	▲ 26
Copper	ppm	ASTM D5185m	>80	<b>4</b>	7	7
Tin	ppm	ASTM D5185m	>14	<b>0</b>	0	1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

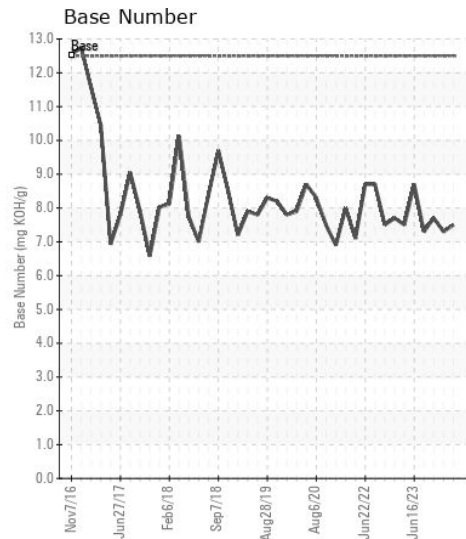
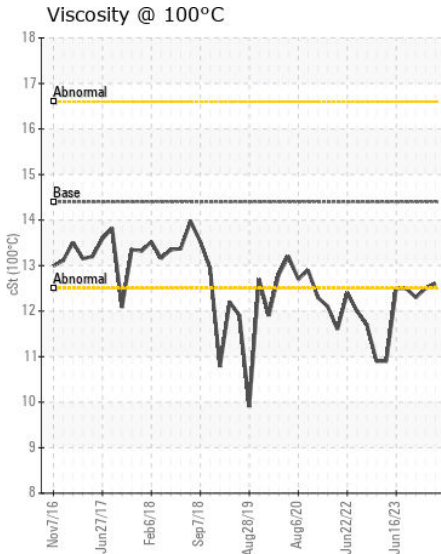
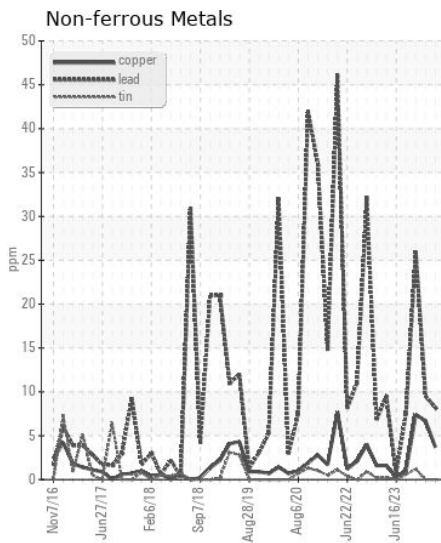
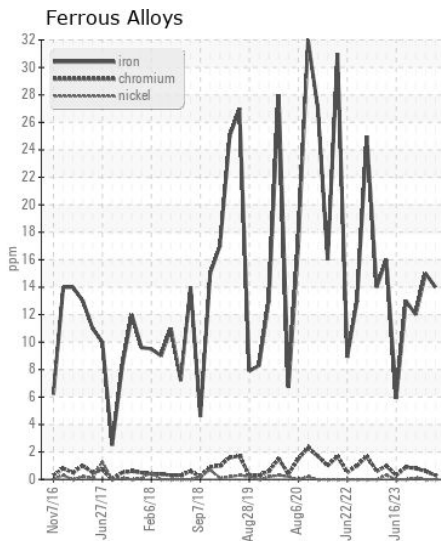
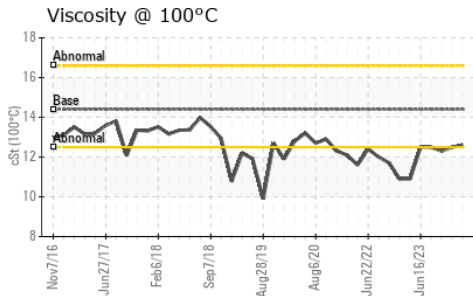
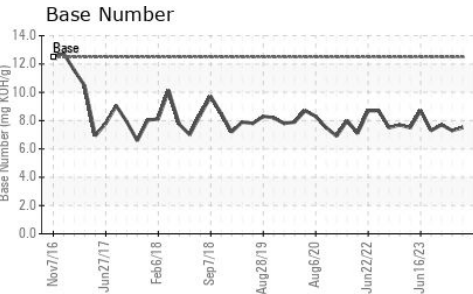
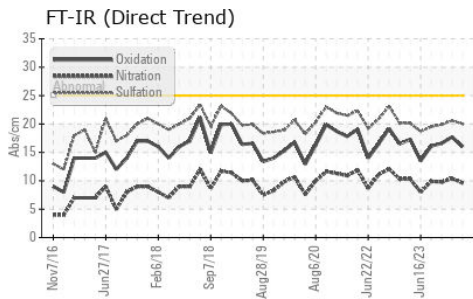
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>3</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	2	1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	▲ 3.2	▲ 4.4
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.4</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.6</b>	10.4	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.0</b>	20.6	19.9
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>7</b>	8	2
Boron	ppm	ASTM D5185m	151	<b>62</b>	● 68	77
Barium	ppm	ASTM D5185m	0.4	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	250	<b>27</b>	● 29	33
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	0	<b>649</b>	652	710
Calcium	ppm	ASTM D5185m	2046	<b>1599</b>	1728	1830
Phosphorus	ppm	ASTM D5185m	1043	<b>751</b>	749	813
Zinc	ppm	ASTM D5185m	943	<b>857</b>	844	989
Sulfur	ppm	ASTM D5185m	5012	<b>3376</b>	3585	3528
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.0</b>	17.7	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>7.5</b>	7.3	7.7
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.6</b>	12.5	▲ 12.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0052233  
**Lab Number** : 06195223  
**Unique Number** : 11057346  
**Test Package** : MAR 2  
**Received** : 30 May 2024  
**Tested** : 31 May 2024  
**Diagnosed** : 31 May 2024 - Sean Felton

**AMERICAN RIVER TRANSPORTATION CO.**  
 P.O. BOX 2889  
 ST. LOUIS, MO  
 US 63111  
 Contact: BRIAN GRIEWING  
 brian.griewing@adm.com  
 T:  
 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)