



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

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

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0054566</b>	MW0054616	---
Sample Date		Client Info		<b>11 Jul 2024</b>	16 Jul 2023	---
Machine Age	hrs	Client Info		<b>26356</b>	0	---
Oil Age	hrs	Client Info		<b>970</b>	0	---
Filter Age	hrs	Client Info		<b>970</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	N/A	---
Filter Changed		Client Info		<b>Changed</b>	N/A	---
Sample Status				<b>NORMAL</b>	ABNORMAL	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>15</b>	15	---
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	---
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	5	---
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>15	<b>3</b>	2	---
Lead	ppm	ASTM D5185m	>18	<b>&lt;1</b>	<1	---
Copper	ppm	ASTM D5185m	>80	<b>3</b>	▲ 192	---
Tin	ppm	ASTM D5185m	>14	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

**CONTAMINATION**

There is no indication of any contamination in the oil.

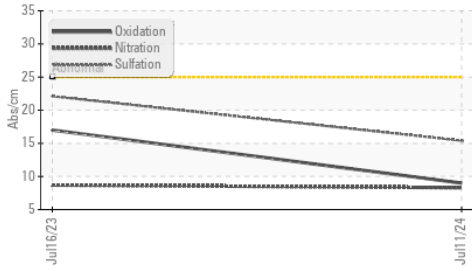
Silicon	ppm	ASTM D5185m	>20	<b>3</b>	4	---
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	---
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.1	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844		<b>0.4</b>	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.3</b>	8.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.4</b>	22.1	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	---

**FLUID CONDITION**

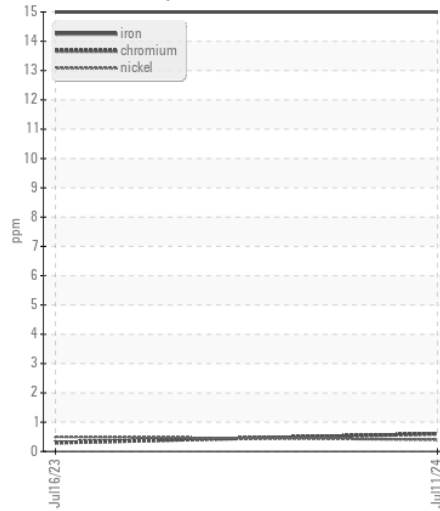
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>0</b>	0	---
Boron	ppm	ASTM D5185m	151	<b>34</b>	148	---
Barium	ppm	ASTM D5185m	0.4	<b>&lt;1</b>	0	---
Molybdenum	ppm	ASTM D5185m	250	<b>42</b>	84	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m	0	<b>35</b>	632	---
Calcium	ppm	ASTM D5185m	2046	<b>3184</b>	1487	---
Phosphorus	ppm	ASTM D5185m	1043	<b>47</b>	705	---
Zinc	ppm	ASTM D5185m	943	<b>31</b>	821	---
Sulfur	ppm	ASTM D5185m	5012	<b>2329</b>	2787	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.0</b>	17.0	---
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>6.3</b>	7.4	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.6</b>	12.8	---

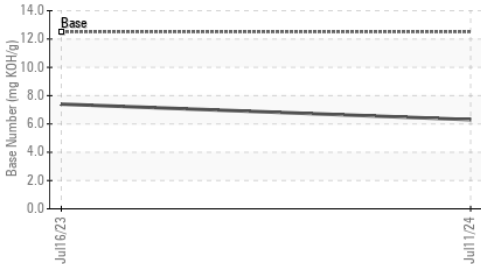
FT-IR (Direct Trend)



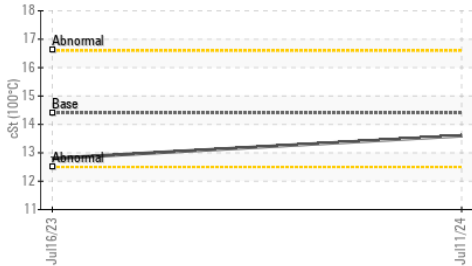
Ferrous Alloys



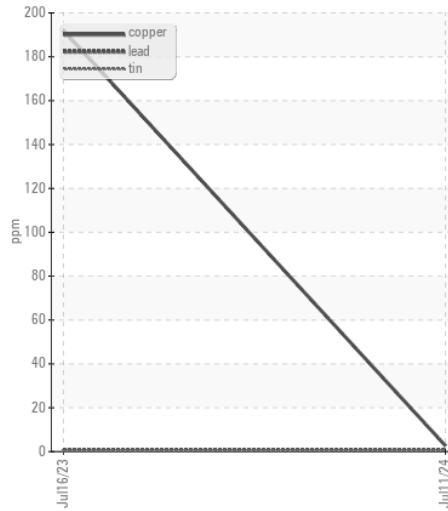
Base Number



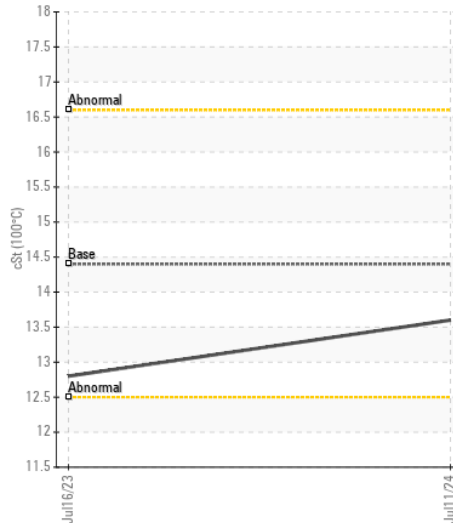
Viscosity @ 100°C



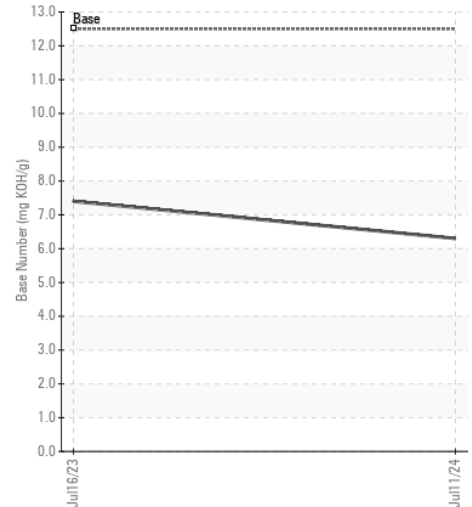
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : MW0054566  
 Lab Number : 06238979  
 Unique Number : 11127813  
 Test Package : MAR 2

Received : 17 Jul 2024  
 Tested : 18 Jul 2024  
 Diagnosed : 19 Jul 2024 - Sean Felton

AMERICAN RIVER TRANSPORTATION CO  
 209 W VACO RD  
 WICKLIFFE, KY  
 US 42087

Contact: CRAIG MALASCHAK  
 craig.malaschak@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: (314)457-2170

F: