



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



Machine Id  
**TENNESSEE MERCHANT (S/N 29700814)**  
Component  
**Port Main Engine**  
Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (209 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0044716</b>	MW0044715	MW0044876
Sample Date		Client Info		<b>05 Jul 2024</b>	01 Jun 2024	14 May 2024
Machine Age	hrs	Client Info		<b>7855</b>	7149	6750
Oil Age	hrs	Client Info		<b>814</b>	567	782
Filter Age	hrs	Client Info		<b>814</b>	567	782
Oil Changed		Client Info		<b>Not Chngd</b>	Changed	Not Chngd
Filter Changed		Client Info		<b>Not Chngd</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>3</b>	2	4
Chromium	ppm	ASTM D5185m	>8	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>9</b>	11	15
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	3	3
Lead	ppm	ASTM D5185m	>18	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>80	<b>&lt;1</b>	<1	2
Tin	ppm	ASTM D5185m	>14	<b>&lt;1</b>	<1	<1
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**

There is no indication of any contamination in the oil.

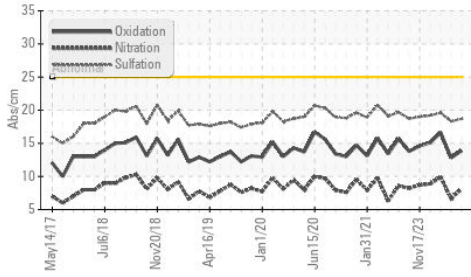
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	8	5
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	4	5
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	6.7	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.7</b>	18.3	19.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	▲ MODER
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**

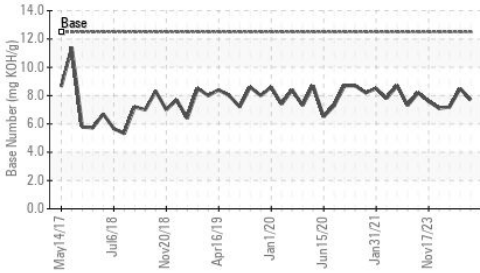
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>1</b>	0	4
Boron	ppm	ASTM D5185m	151	<b>138</b>	184	128
Barium	ppm	ASTM D5185m	0.4	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	250	<b>35</b>	38	35
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m	0	<b>657</b>	648	819
Calcium	ppm	ASTM D5185m	2046	<b>1463</b>	1455	1704
Phosphorus	ppm	ASTM D5185m	1043	<b>793</b>	802	925
Zinc	ppm	ASTM D5185m	943	<b>929</b>	875	960
Sulfur	ppm	ASTM D5185m	5012	<b>3821</b>	3226	3891
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.9</b>	12.8	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>7.7</b>	8.5	7.2
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.8</b>	14.1	14.1

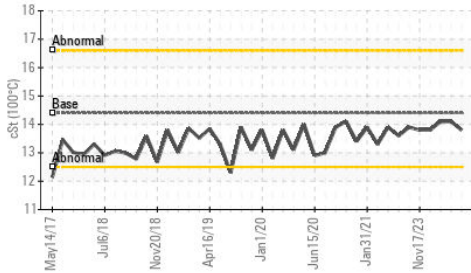
**FT-IR (Direct Trend)**



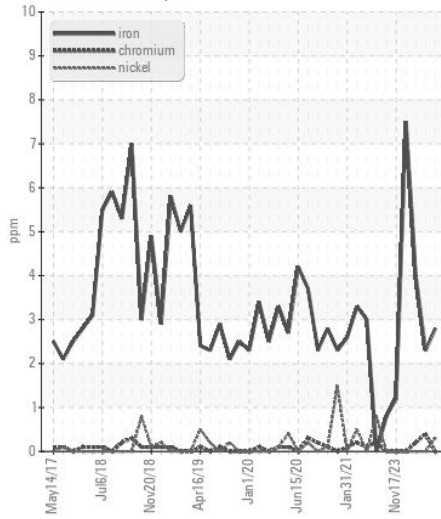
**Base Number**



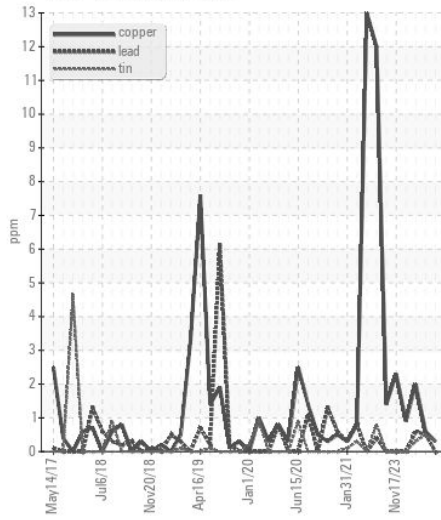
**Viscosity @ 100°C**



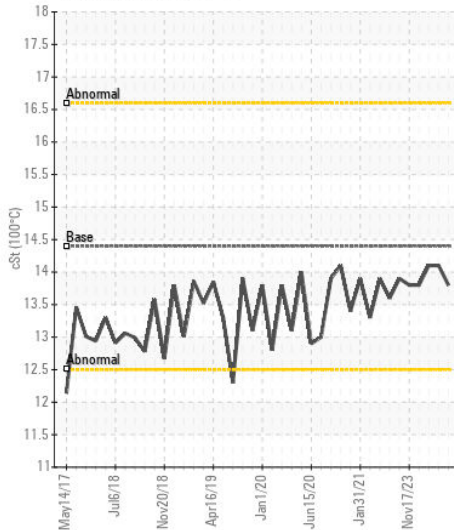
**Ferrous Alloys**



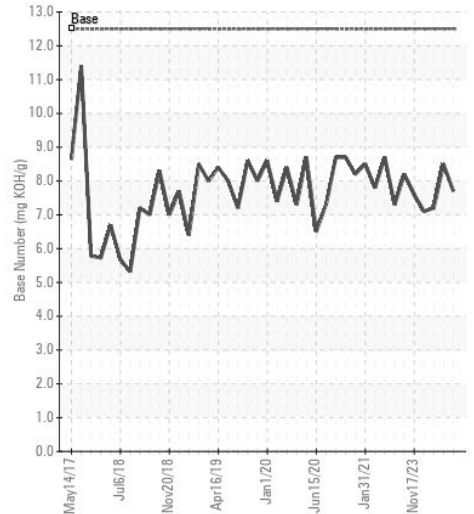
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : MW0044716

**Lab Number** : 06234432

**Unique Number** : 11123266

**Test Package** : MAR 2

**Received** : 12 Jul 2024

**Tested** : 12 Jul 2024

**Diagnosed** : 14 Jul 2024 - Don Baldrige

**AMERICAN COMMERCIAL LINES**

PO BOX 610, 1701 E. MARKET STREET

JEFFERSONVILLE, IN

US 47130

Contact: RONALD SCHNEIDER

ronald.schneider@bargeacbl.com

T:

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)

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