



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



Machine Id  
**Caterpillar AMY FRANCES**

Component  
**Port Main Engine**

Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (220 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0058212</b>	MW0058273	MW0058266
Sample Date		Client Info		<b>16 Jan 2024</b>	22 Dec 2023	05 Nov 2023
Machine Age	hrs	Client Info		<b>41382</b>	40948	40077
Oil Age	hrs	Client Info		<b>477</b>	139	653
Filter Age	hrs	Client Info		<b>477</b>	139	653
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

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

**CONTAMINATION**

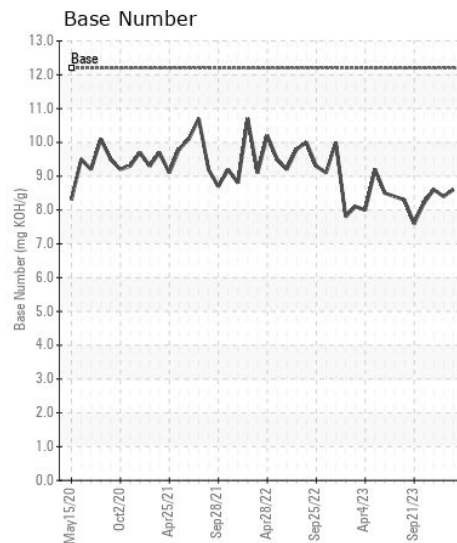
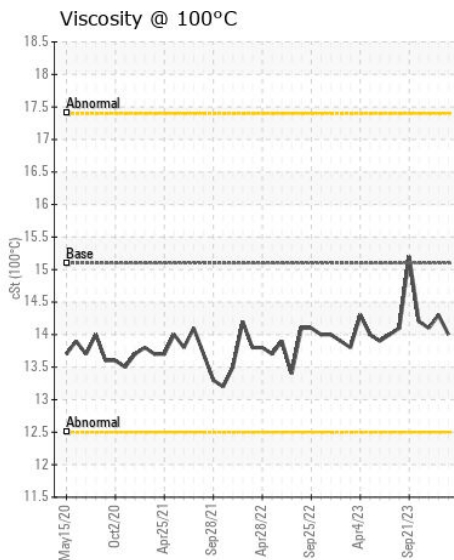
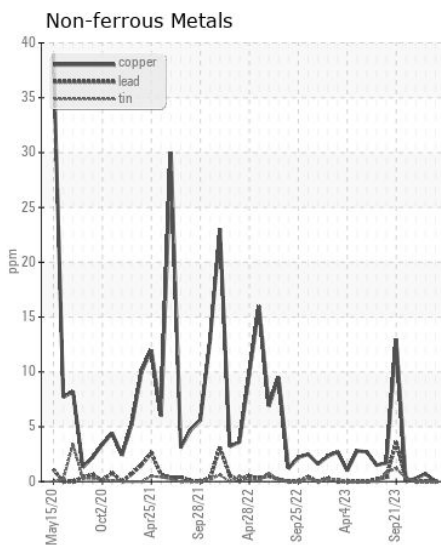
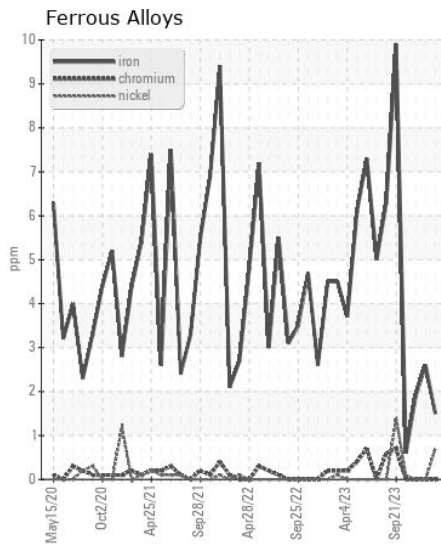
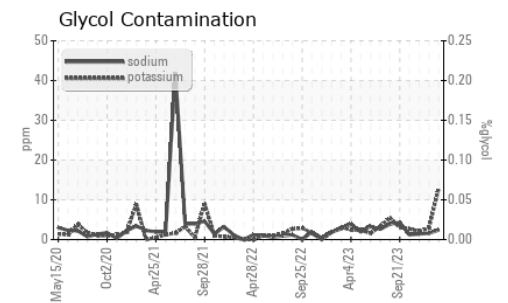
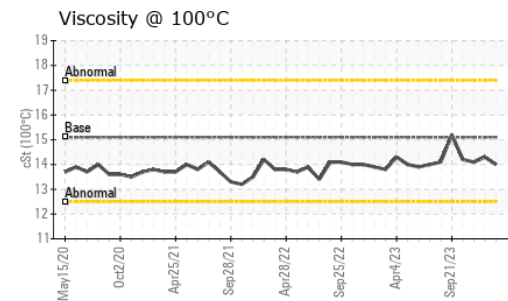
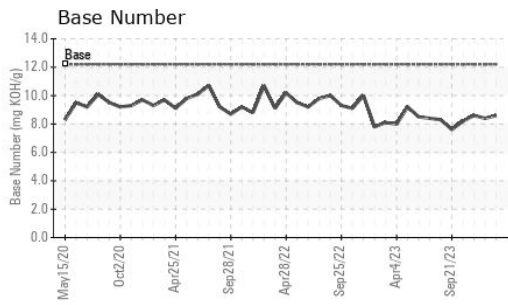
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>3</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>13</b>	3	2
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	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.3</b>	6.6	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.9</b>	17.8	17.8
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>2</b>	2	1
Boron	ppm	ASTM D5185m		<b>103</b>	95	100
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>27</b>	28	29
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>707</b>	706	804
Calcium	ppm	ASTM D5185m		<b>1409</b>	1498	1718
Phosphorus	ppm	ASTM D5185m	1360	<b>673</b>	702	821
Zinc	ppm	ASTM D5185m	1480	<b>792</b>	787	984
Sulfur	ppm	ASTM D5185m		<b>2972</b>	3037	3637
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.5</b>	12.1	12.5
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	<b>8.6</b>	8.4	8.6
Visc @ 100°C	cSt	ASTM D445	15.1	<b>14.0</b>	14.3	14.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0058212 **Received** : 30 Jan 2024  
**Lab Number** : 06074471 **Diagnosed** : 01 Feb 2024  
**Unique Number** : 10856562 **Diagnostician** : Jonathan Hester  
**Test Package** : MAR 2 ( Additional Tests: Glycol )

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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