



# OIL ANALYSIS REPORT

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



Machine Id  
**CATERPILLAR 3408**  
Component  
**Starboard Auxiliary Engine**  
Fluid  
**CHEVRON DELO 400 SAE 30 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KL0008869</b>	---	---
Sample Date		Client Info		<b>30 Oct 2023</b>	---	---
Machine Age	hrs	Client Info		<b>1199</b>	---	---
Oil Age	hrs	Client Info		<b>150</b>	---	---
Filter Age	hrs	Client Info		<b>150</b>	---	---
Oil Changed		Client Info		<b>Changed</b>	---	---
Filter Changed		Client Info		<b>Changed</b>	---	---
Sample Status				<b>NORMAL</b>	---	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>7</b>	---	---
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	---	---
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m	>330	<b>1</b>	---	---
Tin	ppm	ASTM D5185m	>15	<b>1</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

## CONTAMINATION

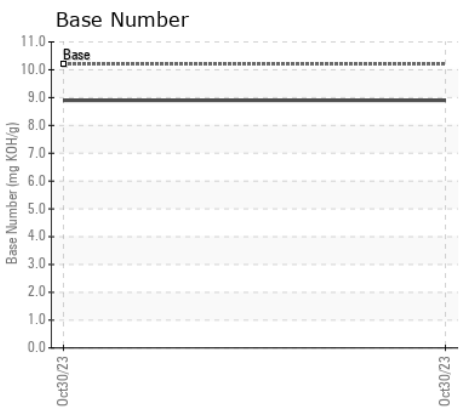
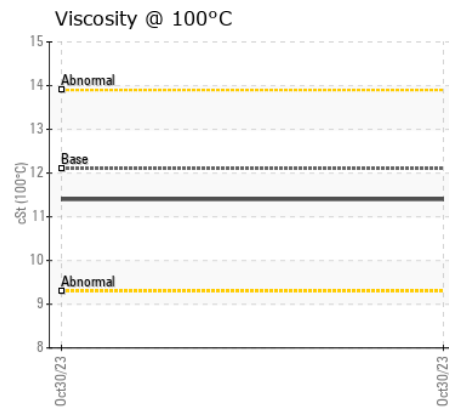
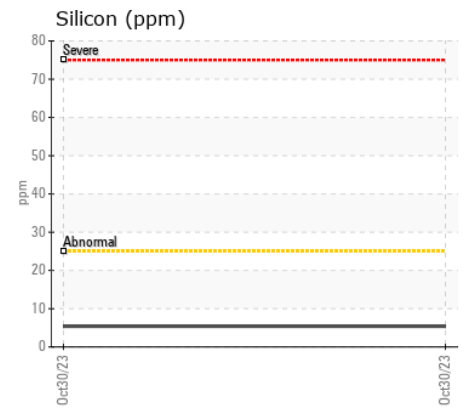
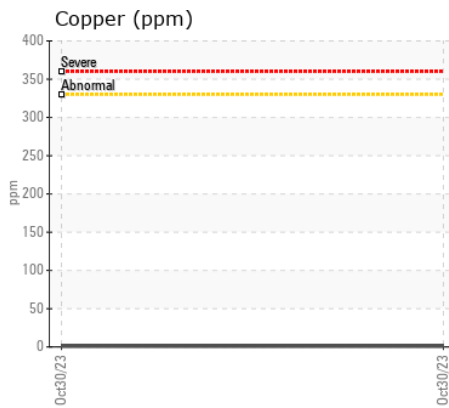
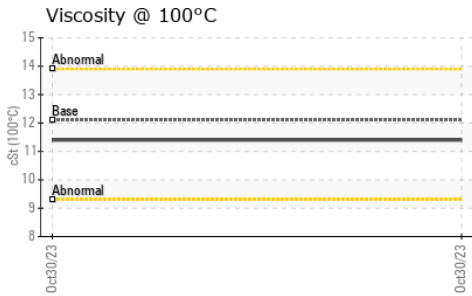
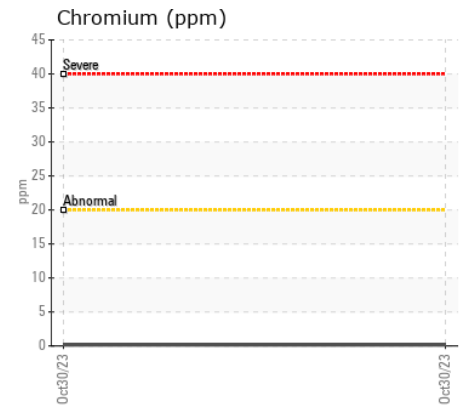
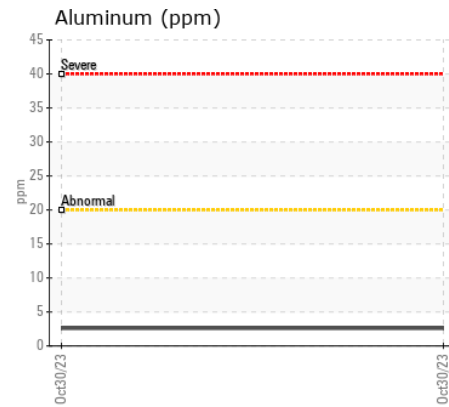
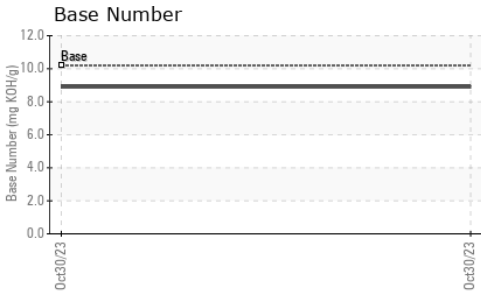
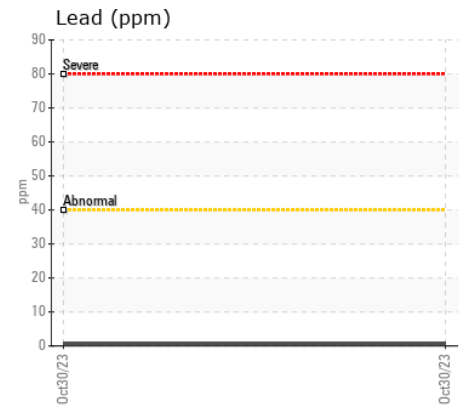
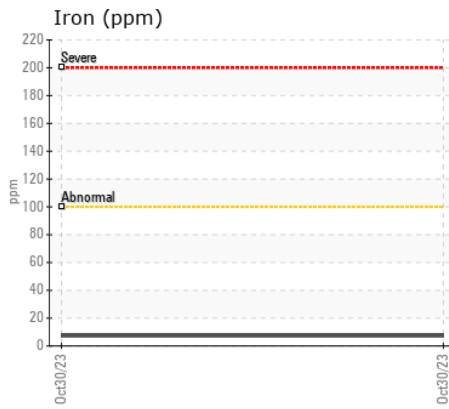
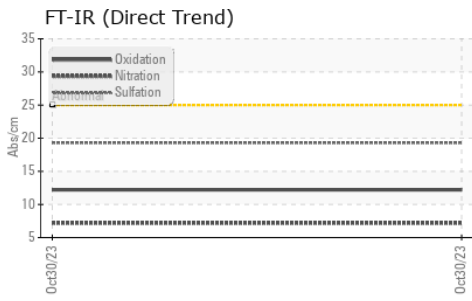
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	---	---
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	---	---
Water		WC Method	>0.1	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	*ASTM D7844		<b>0.2</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.2</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.3</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	---	---

## 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		<b>1</b>	---	---
Boron	ppm	ASTM D5185m		<b>373</b>	---	---
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>38</b>	---	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>147</b>	---	---
Calcium	ppm	ASTM D5185m		<b>3218</b>	---	---
Phosphorus	ppm	ASTM D5185m	1160	<b>942</b>	---	---
Zinc	ppm	ASTM D5185m	1270	<b>1155</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>3466</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.2</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	<b>8.9</b>	---	---
Visc @ 100°C	cSt	ASTM D445	12.1	<b>11.4</b>	---	---



Certificate L2367

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

**Sample No.** : KL0008869

**Lab Number** : 06038308

**Unique Number** : 10793537

**Test Package** : MOB1+

**Received** : 18 Dec 2023

**Tested** : 19 Dec 2023

**Diagnosed** : 19 Dec 2023 - Wes Davis

**VESTERAALLEN LLC**

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F:

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)