

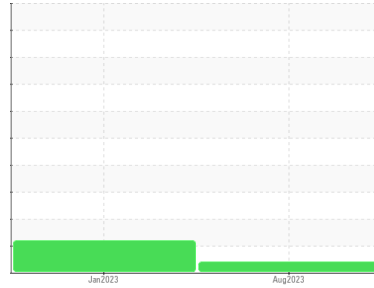


PROBLEM SUMMARY



Machine Id
CATERPILLAR F/V Diligence
 Component
Diesel Engine
 Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

Sample Rating Trend

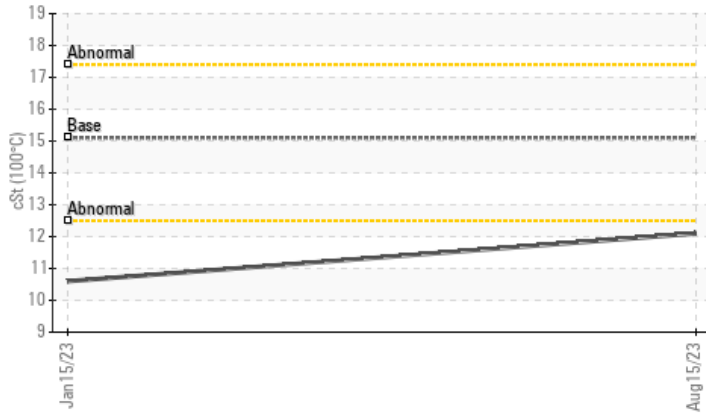


VISCOSITY



COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ATTENTION	ABNORMAL	---
Visc @ 100°C	cSt	ASTM D445	15.1	▲ 12.1	▲ 10.6	---

Customer Id: COASEA
 Sample No.: WC0859237
 Lab Number: 06011318
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Sean Felton +1 919-379-4092
sfelton@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

15 Jan 2023 Diag: Don Baldrige

FUEL



We advise that you check the fuel injection system. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report





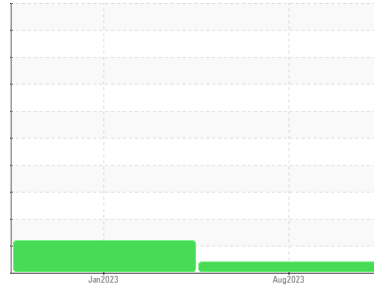
OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY



Machine Id
CATERPILLAR F/V Diligence
 Component
Diesel Engine
 Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)



DIAGNOSIS

▲ Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0859237	WC0782592	---
Sample Date	Client Info		15 Aug 2023	15 Jan 2023	---
Machine Age	hrs	Client Info	854	435	---
Oil Age	hrs	Client Info	100	185	---
Oil Changed	Client Info		Changed	Not Changd	---
Sample Status			ATTENTION	ABNORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >105	16	13	---
Chromium	ppm	ASTM D5185m >5	<1	<1	---
Nickel	ppm	ASTM D5185m >4	0	0	---
Titanium	ppm	ASTM D5185m >2	<1	0	---
Silver	ppm	ASTM D5185m >2	0	0	---
Aluminum	ppm	ASTM D5185m >10	1	<1	---
Lead	ppm	ASTM D5185m >15	2	2	---
Copper	ppm	ASTM D5185m >140	<1	1	---
Tin	ppm	ASTM D5185m >4	<1	1	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	517	452	---
Barium	ppm	ASTM D5185m	<1	0	---
Molybdenum	ppm	ASTM D5185m	57	48	---
Manganese	ppm	ASTM D5185m	0	<1	---
Magnesium	ppm	ASTM D5185m	49	33	---
Calcium	ppm	ASTM D5185m	3965	3691	---
Phosphorus	ppm	ASTM D5185m 1360	1074	994	---
Zinc	ppm	ASTM D5185m 1480	1289	1184	---
Sulfur	ppm	ASTM D5185m	4009	3550	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	7	---
Sodium	ppm	ASTM D5185m	0	<1	---
Potassium	ppm	ASTM D5185m >20	5	1	---
Fuel	%	ASTM D3524 >5	0.8	▲ 4.9	---

INFRA-RED

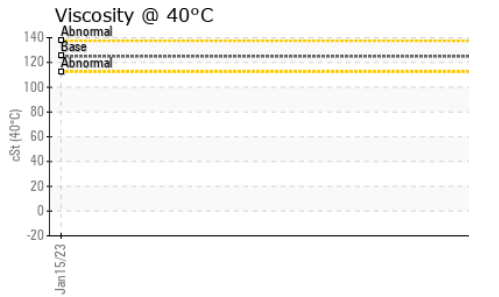
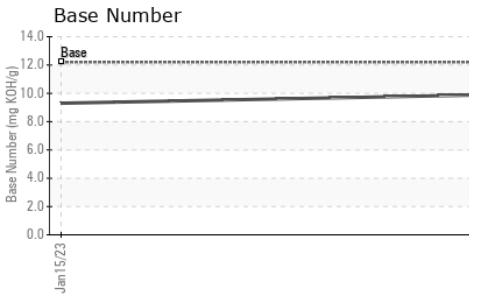
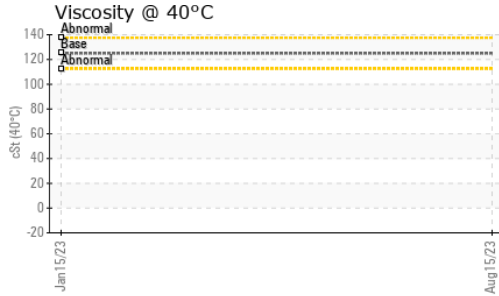
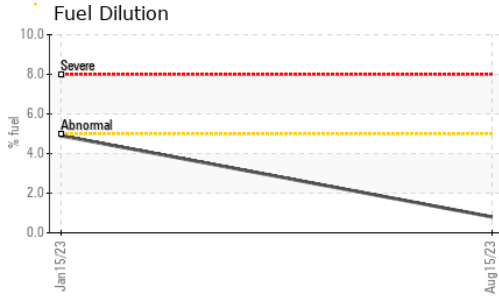
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.7	0.6	---
Nitration	Abs/cm	*ASTM D7624 >20	6.6	7.1	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.8	19.4	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	11.5	12.3	---
Base Number (BN)	mg KOH/g	ASTM D2896 12.2	9.9	9.3	---



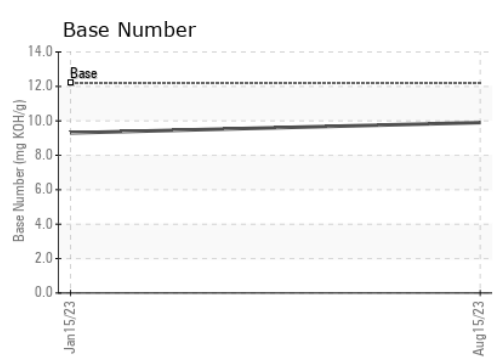
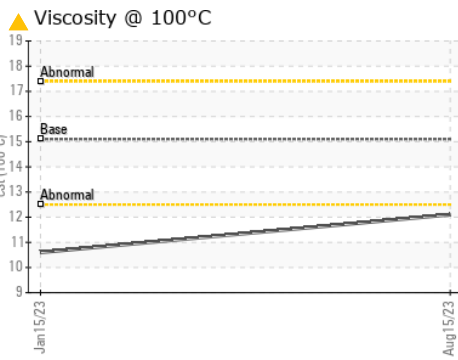
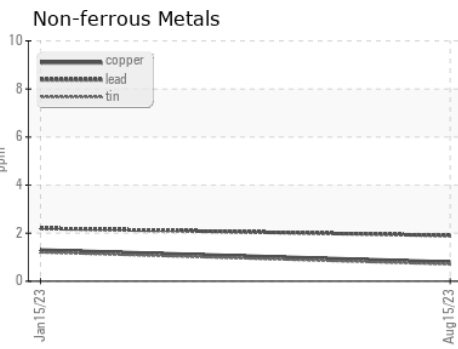
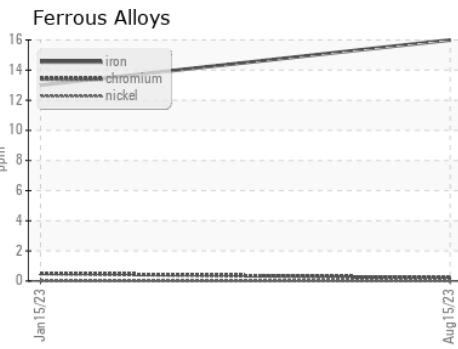
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 12.1	▲ 10.6	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0859237 **Received** : 17 Nov 2023
Lab Number : 06011318 **Diagnosed** : 21 Nov 2023
Unique Number : 10750462 **Diagnostician** : Sean Felton
Test Package : FLEET (Additional Tests: KV40, PercentFuel)

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Certificate L2367
 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)