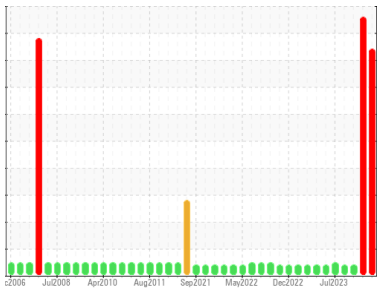
PROBLEM SUMMARY

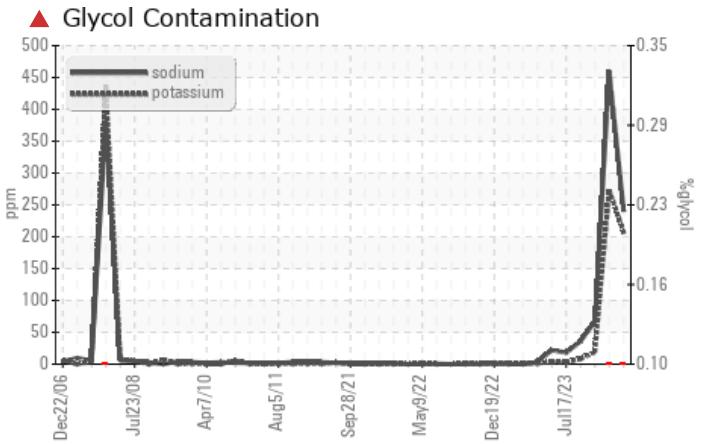
Machine Id
CATERPILLAR 12G 8318 (S/N 61M12623)
Component
Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)

Sample Rating Trend



GLYCOL

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	ATTENTION
Potassium	ppm	ASTM D5185m	>20	▲ **207**	▲ 273	19
Glycol	%	*ASTM D2982		▲ **0.10**	▲ 0.10	NEG

Customer Id: TRANEW
Sample No.: WC0913063
Lab Number: 06179706
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

GLYCOL

08 Apr 2024 Diag: Wes Davis

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.Aluminum ppm levels are abnormal. Piston wear is indicated. Test for glycol is positive. There is a high concentration of glycol present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

VISCOSITY

03 Nov 2023 Diag: Sean Felton

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

VISCOSITY

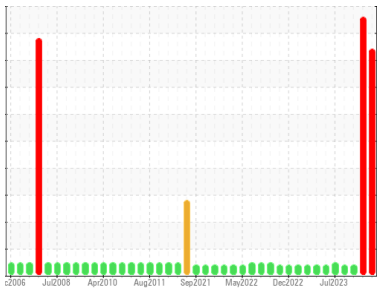
11 Sep 2023 Diag: Jonathan Hester

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
CATERPILLAR 12G 8318 (S/N 61M12623)
Component
Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Test for glycol is positive. There is a high concentration of glycol present in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0913063**	WC0913173	WC0862974
Sample Date		Client Info		**06 May 2024**	08 Apr 2024	03 Nov 2023
Machine Age	hrs	Client Info		**13395**	13099	12357
Oil Age	hrs	Client Info		**296**	714	485
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	ATTENTION

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>105	**11**	25	10
Chromium	ppm	ASTM D5185m	>5	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	0	0
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**4**	▲ 9	2
Lead	ppm	ASTM D5185m	>15	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>140	**4**	12	3
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	1	**0**	5	<1
Barium	ppm	ASTM D5185m	1	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	60	**103**	140	72
Manganese	ppm	ASTM D5185m	1	**<1**	<1	0
Magnesium	ppm	ASTM D5185m	1010	**902**	952	938
Calcium	ppm	ASTM D5185m	1070	**1140**	1198	1094
Phosphorus	ppm	ASTM D5185m	1150	**1195**	1057	994
Zinc	ppm	ASTM D5185m	1270	**1268**	1311	1235
Sulfur	ppm	ASTM D5185m	2060	**3801**	3855	3352

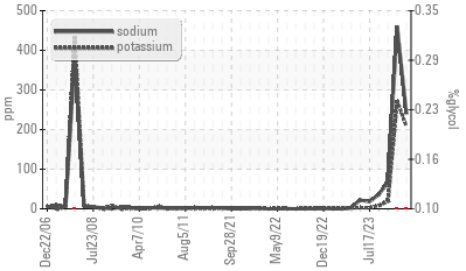
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	8	6
Sodium	ppm	ASTM D5185m		● **240**	● 460	67
Potassium	ppm	ASTM D5185m	>20	▲ **207**	▲ 273	19
Glycol	%	*ASTM D2982		▲ **0.10**	▲ 0.10	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.5**	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**8.2**	10.2	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.6**	20.9	19.1

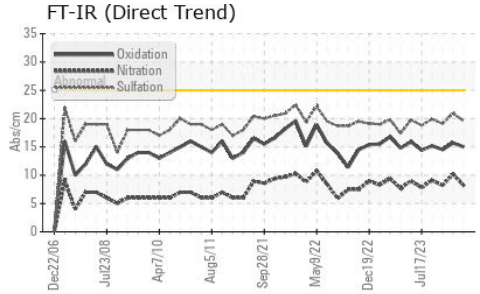
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.0**	15.7	14.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	**7.5**	7.3	8.1

OIL ANALYSIS REPORT

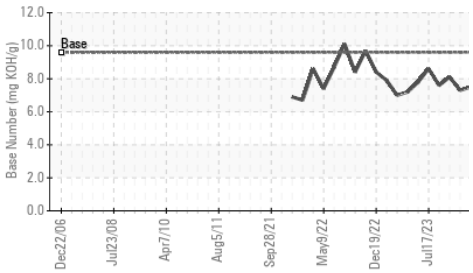
Glycol Contamination



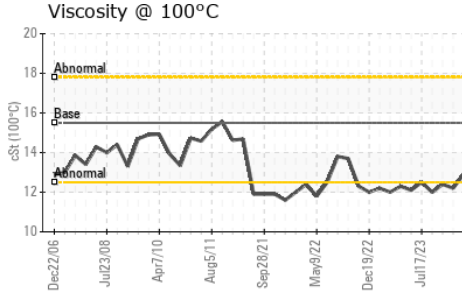
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

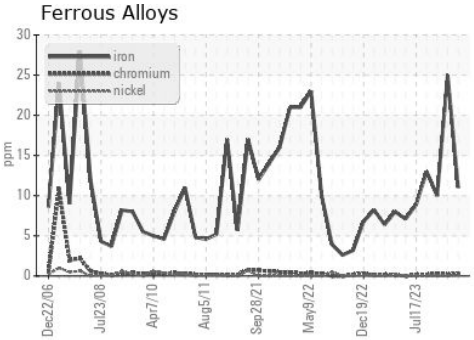


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

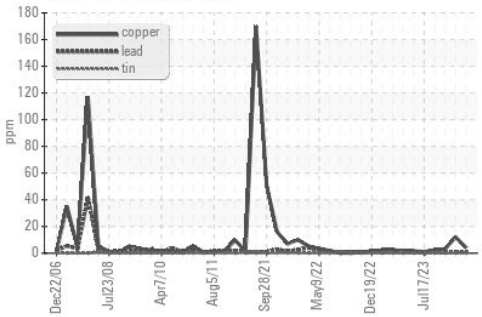
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.5	**12.9**	12.2	12.4

GRAPHS

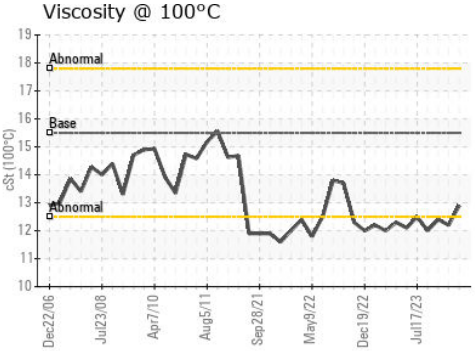
Ferrous Alloys



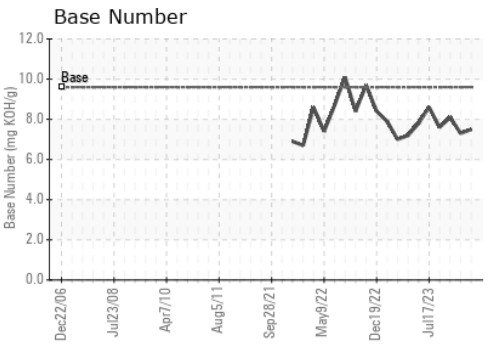
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0913063
Lab Number : 06179706
Unique Number : 11031032
Test Package : CONST (Additional Tests: TBN)

Received : 15 May 2024
Tested : 16 May 2024
Diagnosed : 16 May 2024 - Wes Davis

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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Report Id: TRANEW [WUSCAR] 06179706 (Generated: 05/16/2024 13:28:13) Rev: 1

Contact/Location: MIKE WYATT - TRANEW