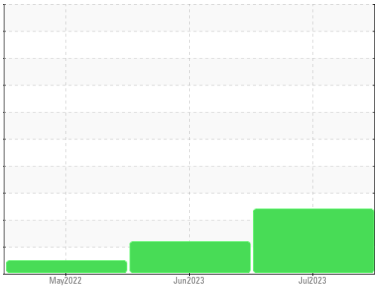
PROBLEM SUMMARY

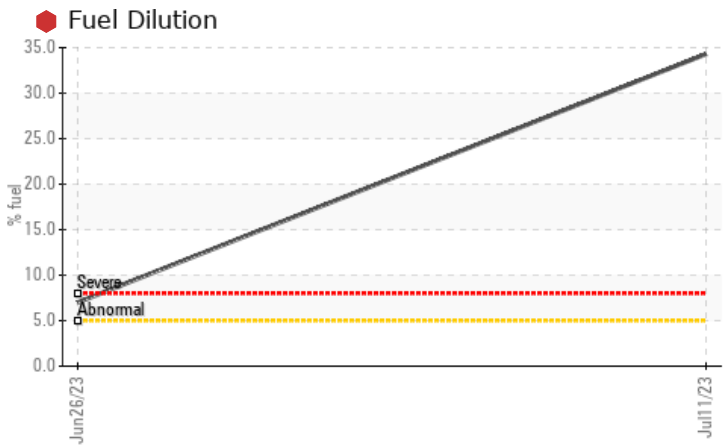
Machine Id
12928
Component
Diesel Engine
Fluid
SHELL ROTELLA T4 15W40 (--- QTS)

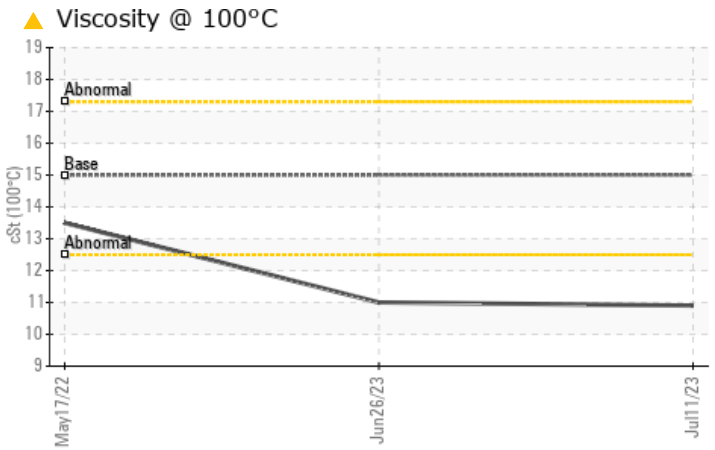
Sample Rating Trend



FUEL

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Fuel	%	ASTM D3524	>5	**34.3**	7.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15	**10.9**	11.0	13.5

Customer Id: PGTNOK
Sample No.: WC0760389
Lab Number: 05899551
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@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.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

26 Jun 2023 Diag: Wes Davis

FUEL

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

17 May 2022 Diag: Don Baldridge

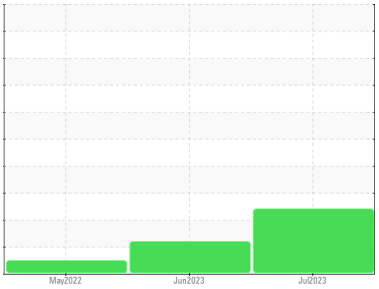
NORMAL

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

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
12928
Component
Diesel Engine
Fluid
SHELL ROTELLA T4 15W40 (--- QTS)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. Oil and filter 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
There is a high amount of fuel present in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. 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		**WC0760389**	WC0760405	WC0567253
Sample Date		Client Info		**11 Jul 2023**	26 Jun 2023	17 May 2022
Machine Age	mls	Client Info		**97790**	96340	46976
Oil Age	mls	Client Info		**1450**	24200	23311
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	ABNORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**3**	17	26
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**0**	<1	2
Silver	ppm	ASTM D5185m	>3	**<1**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**1**	5	11
Lead	ppm	ASTM D5185m	>40	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>330	**<1**	8	100
Tin	ppm	ASTM D5185m	>15	**<1**	<1	2
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**132**	23	5
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**16**	58	15
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**88**	311	126
Calcium	ppm	ASTM D5185m		**1413**	1575	2324
Phosphorus	ppm	ASTM D5185m		**741**	902	894
Zinc	ppm	ASTM D5185m		**832**	1165	1130
Sulfur	ppm	ASTM D5185m		**2952**	3179	2714

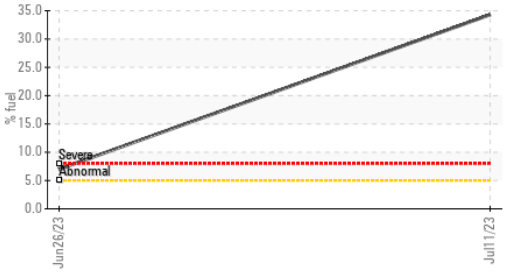
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	7	9
Sodium	ppm	ASTM D5185m		**2**	10	2
Potassium	ppm	ASTM D5185m	>20	**5**	4	19
Fuel	%	ASTM D3524	>5	**34.3**	7.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**6.3**	9.4	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**16.9**	26.5	24.4

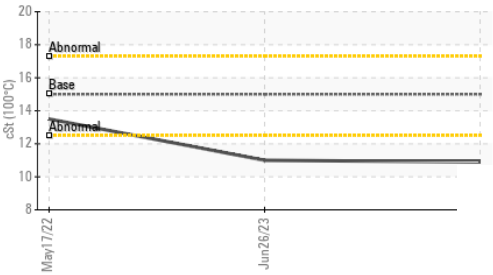
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**11.8**	22.6	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	**6.6**	3.6	4.7

OIL ANALYSIS REPORT

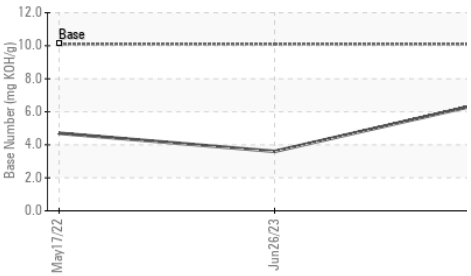
Fuel Dilution



Viscosity @ 100°C



Base Number

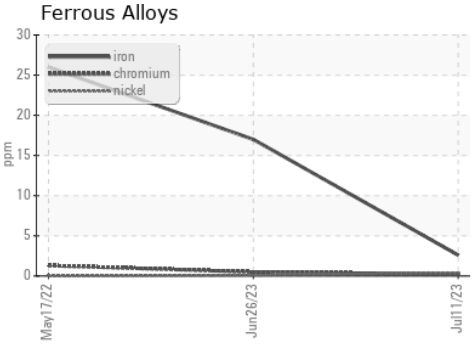


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

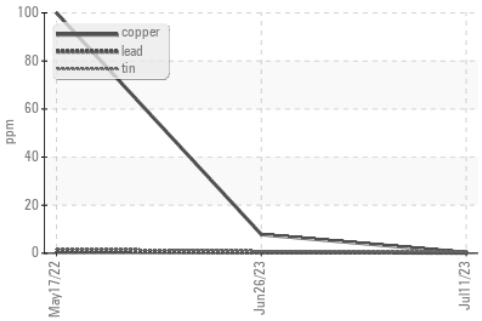
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15	▲ **10.9**	▲ 11.0	13.5

GRAPHS

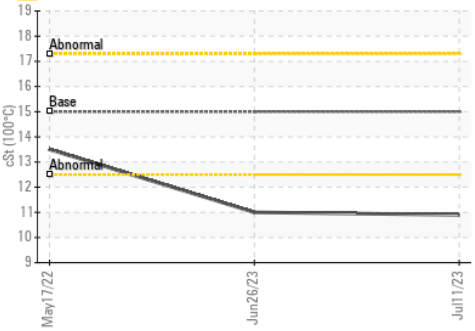
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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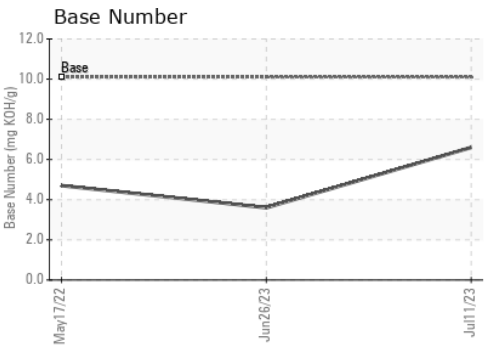

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0760389 **Received** : 17 Jul 2023
Lab Number : 05899551 **Diagnosed** : 18 Jul 2023
Unique Number : 10560907 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

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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