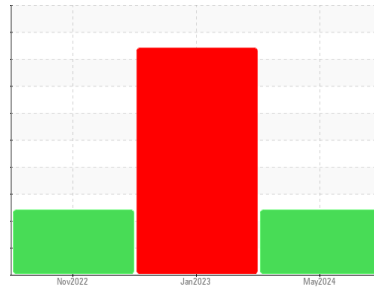




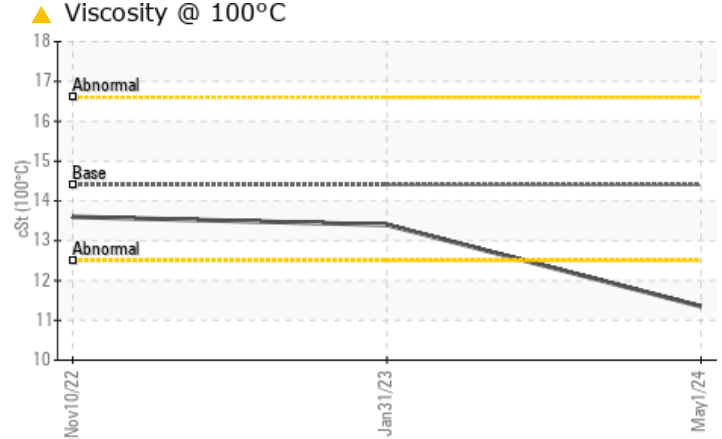
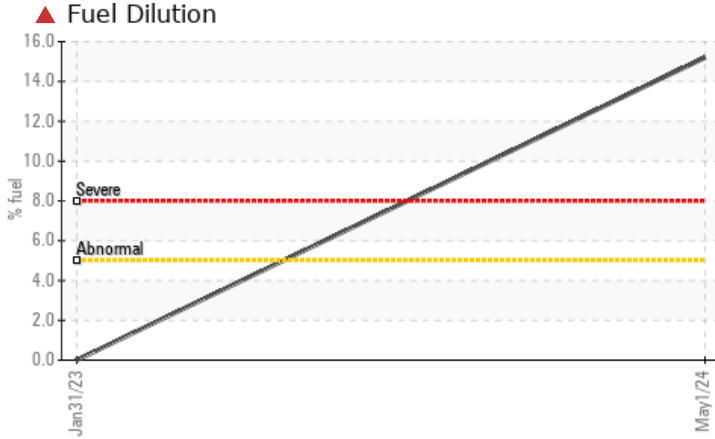
PROBLEM SUMMARY

Machine Id
93
 Component
Diesel Engine
 Fluid
 DIESEL ENGINE OIL SAE 15W40 (--- QTS)

Sample Rating Trend



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ABNORMAL
Fuel	%	ASTM D3524	>5	▲ 15.2	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.35	13.4	13.6

Customer Id: CASYANNC
 Sample No.: WC0904736
 Lab Number: 06183746
 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	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
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

GLYCOL



31 Jan 2023 Diag: Wes Davis

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. 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 due to the presence of contaminants.

view report



GLYCOL



10 Nov 2022 Diag: Jonathan Hester

We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

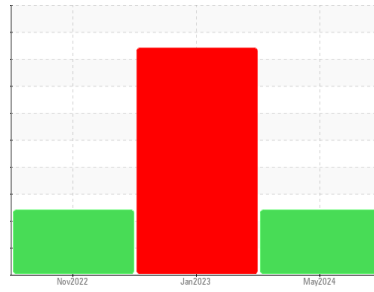
view report





OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id

93

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 15W40 (--- QTS)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. 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		WC0904736	WC0723364	WC0723377
Sample Date	Client Info		01 May 2024	31 Jan 2023	10 Nov 2022
Machine Age	mls	Client Info	183809	175410	169504
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info		Not Changd	N/A	Not Changd
Sample Status			SEVERE	SEVERE	ABNORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	41	38	17
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	2	0	0
Titanium	ppm	ASTM D5185m		63	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	15	5	2
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	2	2	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	250	75	41	63
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	12	38	20
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	366	712	733
Calcium	ppm	ASTM D5185m	3000	1410	1425	1435
Phosphorus	ppm	ASTM D5185m	1150	853	1052	1051
Zinc	ppm	ASTM D5185m	1350	1002	1262	1319
Sulfur	ppm	ASTM D5185m	4250	3535	4096	4440

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	6	8	5
Sodium	ppm	ASTM D5185m	>158	2	293	105
Potassium	ppm	ASTM D5185m	>20	0	117	42
Fuel	%	ASTM D3524	>5	▲ 15.2	<1.0	<1.0
Glycol	%	*ASTM D2982		NEG	▲ 0.10	NEG

INFRA-RED

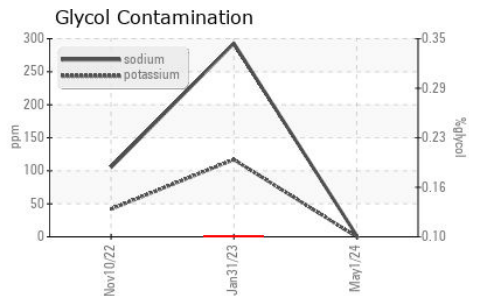
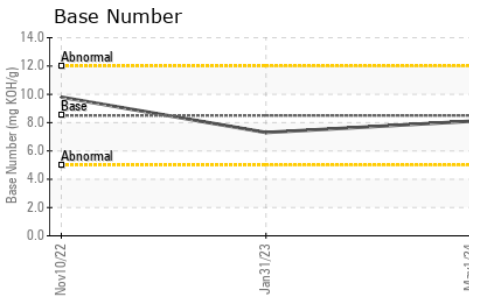
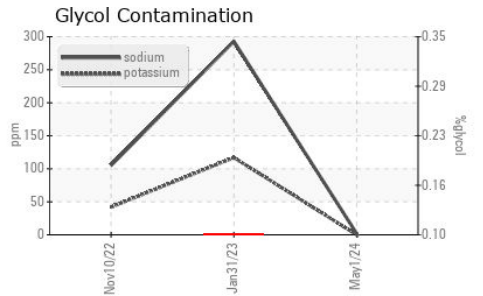
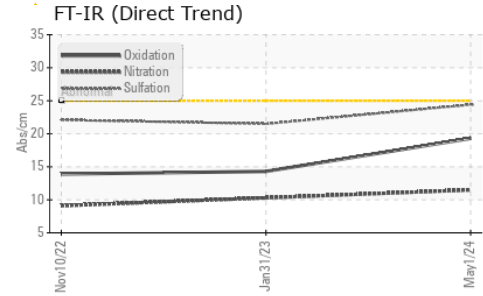
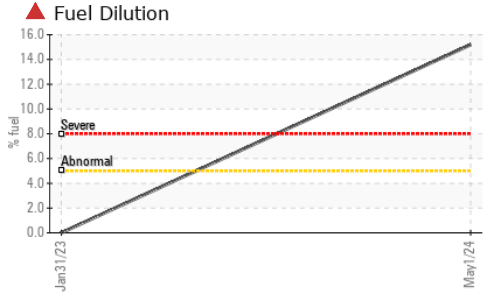
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	1.6	0.9	0.6
Nitration	Abs/cm	*ASTM D7624	>20	11.5	10.3	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.4	21.5	22.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.3	14.3	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.1	7.3	9.8



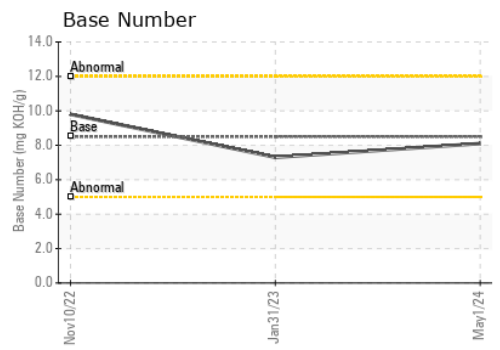
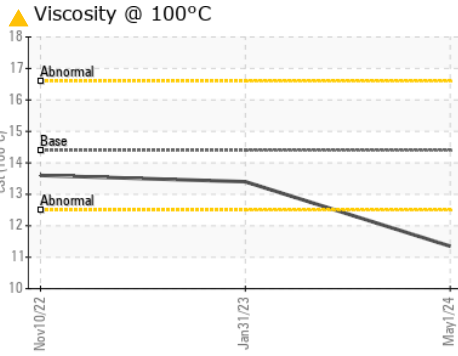
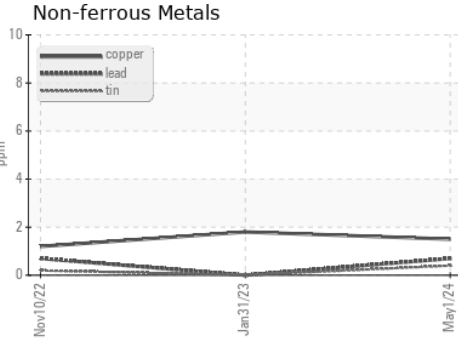
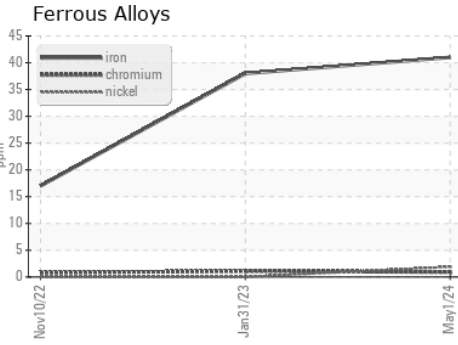
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.35	13.4	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0904736 **Received** : 17 May 2024
Lab Number : 06183746 **Tested** : 28 May 2024
Unique Number : 11035072 **Diagnosed** : 28 May 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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 debra.moore@caswell.k12.nc.us
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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)