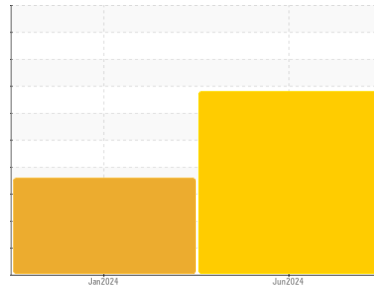




PROBLEM SUMMARY

Sample Rating Trend



DIRT



Machine Id

4854

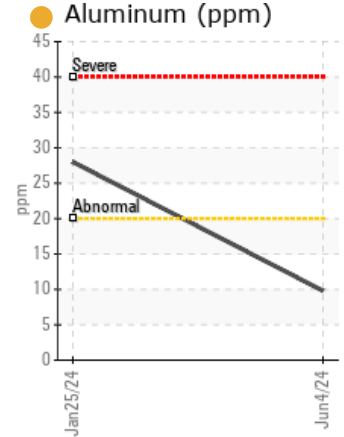
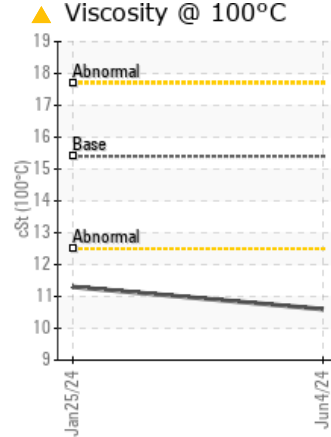
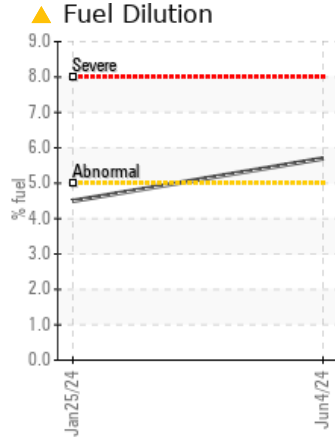
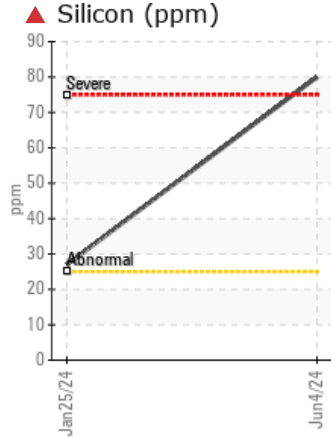
Component

Diesel Engine

Fluid

CITGO CITGUARD 600 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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	---
Silicon	ppm	ASTM D5185m	>25	▲ 80	▲ 27	---
Fuel	%	ASTM D3524	>5	▲ 5.7	▲ 4.5	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 10.6	▲ 11.3	---

Customer Id: OMNJOH
 Sample No.: WC0891562
 Lab Number: 06205933
 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 Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

DIRT



25 Jan 2024 Diag: Jonathan Hester

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. There is a moderate amount of fuel present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

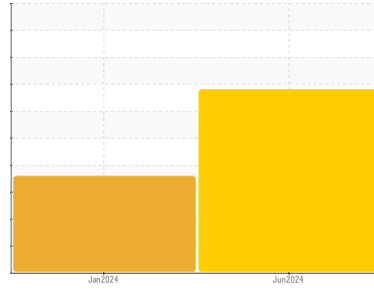
view report





OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id

4854

Component

Diesel Engine

Fluid

CITGO CITGUARD 600 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a moderate 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			WC0891562	WC0891586	---
Sample Date	Client Info			04 Jun 2024	25 Jan 2024	---
Machine Age	hrs	Client Info		560881	544420	---
Oil Age	hrs	Client Info		10000	544420	---
Oil Changed	Client Info			Changed	Changed	---
Sample Status				SEVERE	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	>100	28	52	---
Chromium	ppm	ASTM D5185m	>20	1	2	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	10	28	---
Lead	ppm	ASTM D5185m	>40	2	2	---
Copper	ppm	ASTM D5185m	>330	2	10	---
Tin	ppm	ASTM D5185m	>15	<1	2	---
Vanadium	ppm	ASTM D5185m		<1	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	13	33	28	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	57	38	66	---
Manganese	ppm	ASTM D5185m		<1	1	---
Magnesium	ppm	ASTM D5185m	825	265	339	---
Calcium	ppm	ASTM D5185m	1100	2038	1626	---
Phosphorus	ppm	ASTM D5185m	933	966	915	---
Zinc	ppm	ASTM D5185m	1089	1160	1157	---
Sulfur	ppm	ASTM D5185m	2769	3755	3316	---

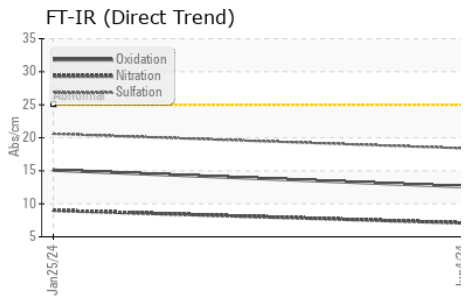
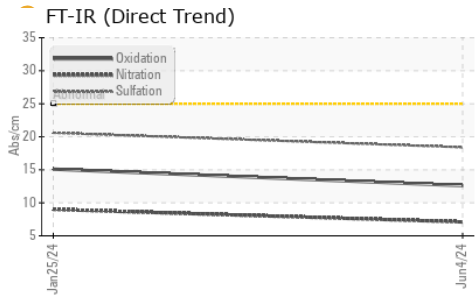
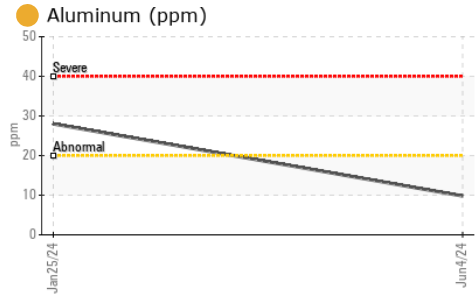
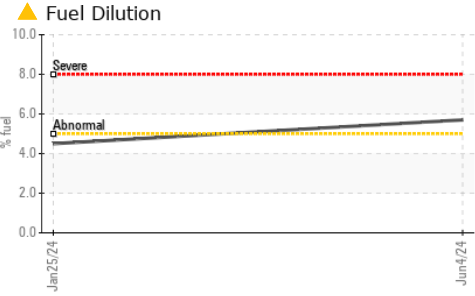
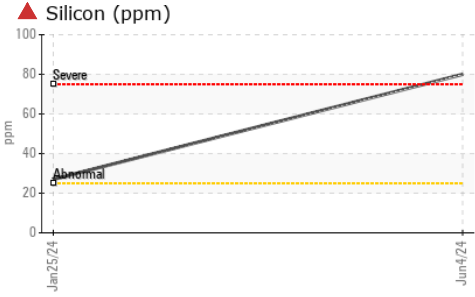
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	80	27	---
Sodium	ppm	ASTM D5185m		3	2	---
Potassium	ppm	ASTM D5185m	>20	6	28	---
Fuel	%	ASTM D3524	>5	5.7	4.5	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.4	0.8	---
Nitration	Abs/cm	*ASTM D7624	>20	7.1	9.0	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	20.6	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.6	15.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.0	7.6	7.3	---



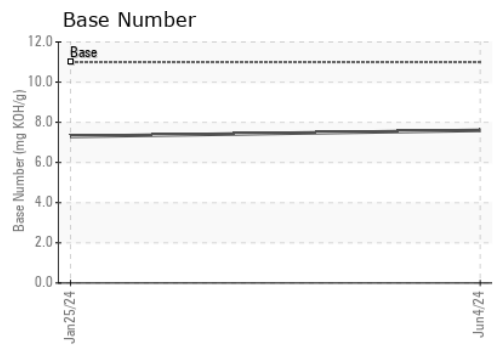
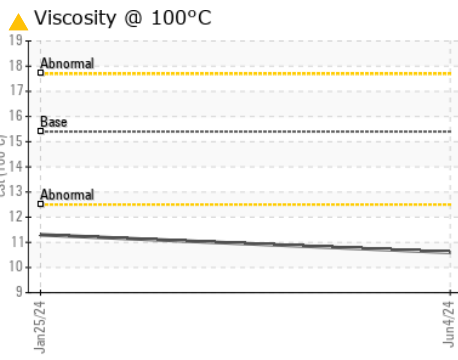
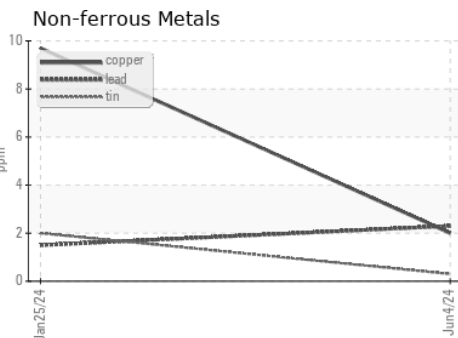
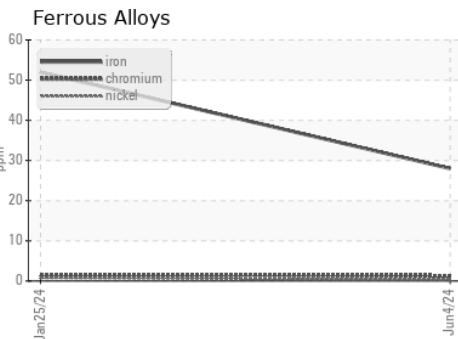
OIL ANALYSIS REPORT



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	15.4	▲ 10.6	▲ 11.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0891562 **Received** : 10 Jun 2024
Lab Number : 06205933 **Tested** : 13 Jun 2024
Unique Number : 11073394 **Diagnosed** : 13 Jun 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

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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)