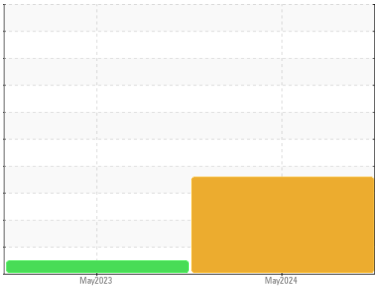
PROBLEM SUMMARY

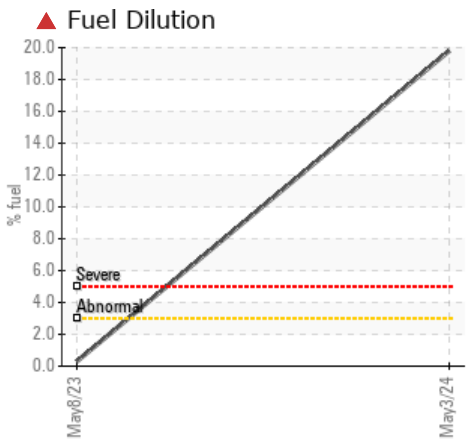
Machine Id
208
Component
Diesel Engine
Fluid
{not provided} (--- GAL)

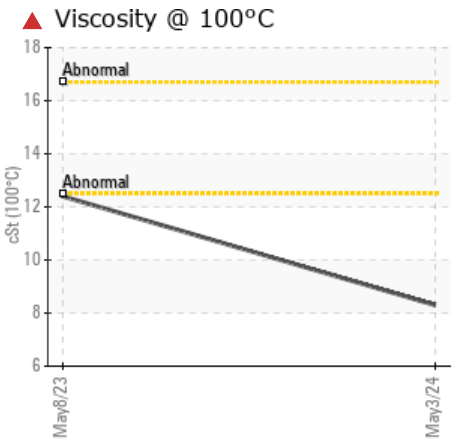
Sample Rating Trend

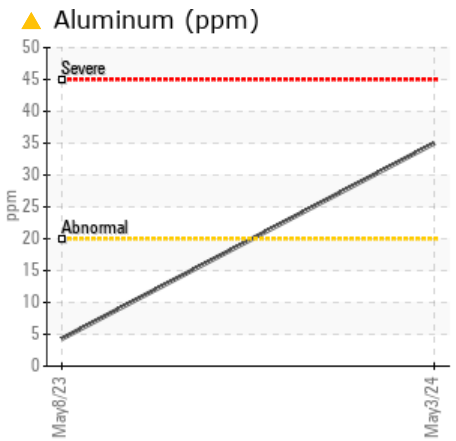


FUEL

COMPONENT CONDITION SUMMARY







RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	---
Aluminum	ppm	ASTM D5185m	>20	▲ 35	4	---
Fuel	%	ASTM D3524	>3.0	▲ 19.8	0.3	---
Visc @ 100°C	cSt	ASTM D445		▲ 8.3	12.4	---

Customer Id: AVWCHA
Sample No.: WC0923663
Lab Number: 06198978
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.
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

NORMAL

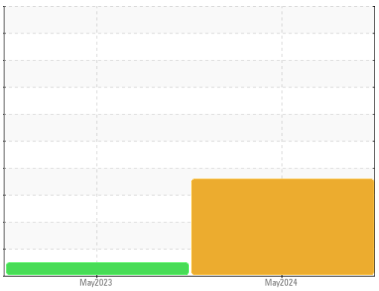
08 May 2023 Diag: Wes Davis

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.Metal levels are typical for a components first oil change. Fuel content negligible. 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
208
Component
Diesel Engine
Fluid
{not provided} (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear
Aluminum ppm levels are abnormal. Piston wear is indicated.

Contamination
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
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 as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0923663**	WC0759980	---
Sample Date		Client Info		**03 May 2024**	08 May 2023	---
Machine Age	hrs	Client Info		**10910**	8512	---
Oil Age	hrs	Client Info		**2398**	8512	---
Oil Changed		Client Info		**Changed**	Changed	---
Sample Status				**SEVERE**	NORMAL	---

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	>120	**51**	11	---
Chromium	ppm	ASTM D5185m	>20	**2**	<1	---
Nickel	ppm	ASTM D5185m	>5	**0**	<1	---
Titanium	ppm	ASTM D5185m	>2	**0**	0	---
Silver	ppm	ASTM D5185m	>2	**0**	0	---
Aluminum	ppm	ASTM D5185m	>20	▲ **35**	4	---
Lead	ppm	ASTM D5185m	>40	**<1**	<1	---
Copper	ppm	ASTM D5185m	>330	**2**	1	---
Tin	ppm	ASTM D5185m	>15	**<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		**0**	13	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**53**	67	---
Manganese	ppm	ASTM D5185m		**<1**	<1	---
Magnesium	ppm	ASTM D5185m		**676**	862	---
Calcium	ppm	ASTM D5185m		**943**	1146	---
Phosphorus	ppm	ASTM D5185m		**777**	973	---
Zinc	ppm	ASTM D5185m		**899**	1197	---
Sulfur	ppm	ASTM D5185m		**2203**	3385	---

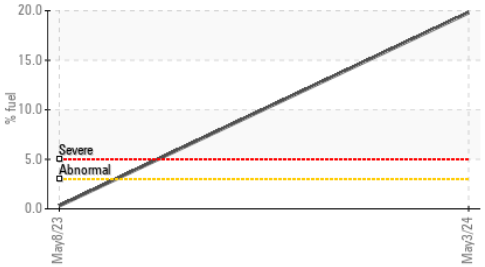
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**1**	4	---
Sodium	ppm	ASTM D5185m		**9**	4	---
Potassium	ppm	ASTM D5185m	>20	**36**	6	---
Fuel	%	ASTM D3524	>3.0	▲ **19.8**	0.3	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**1.3**	0.5	---
Nitration	Abs/cm	*ASTM D7624	>20	**11.7**	8.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.6**	18.5	---

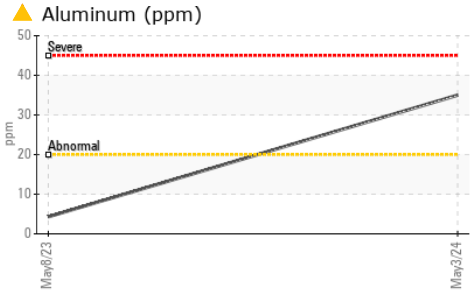
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.2**	12.8	---
Base Number (BN)	mg KOH/g	ASTM D2896		**4.1**	8.4	---

OIL ANALYSIS REPORT

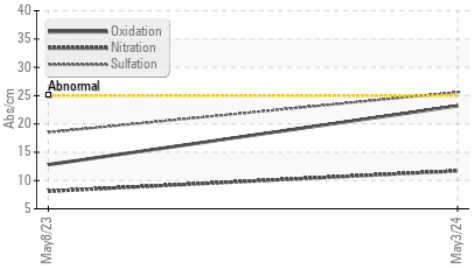
Fuel Dilution



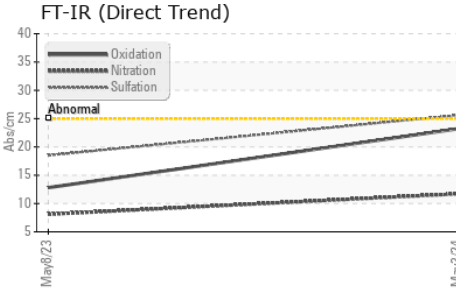
Aluminum (ppm)



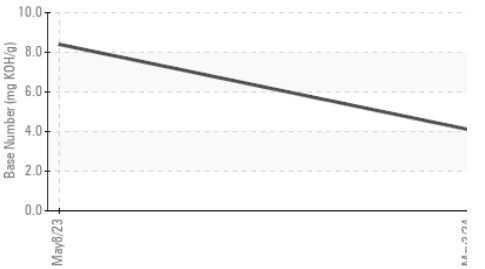
FT-IR (Direct Trend)



FT-IR (Direct Trend)



Base Number

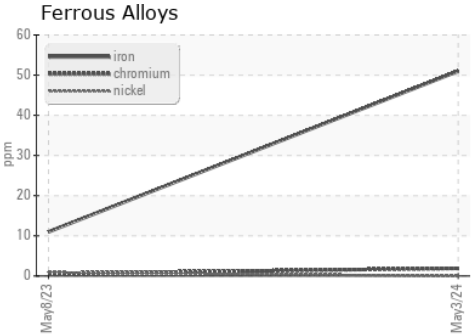


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt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

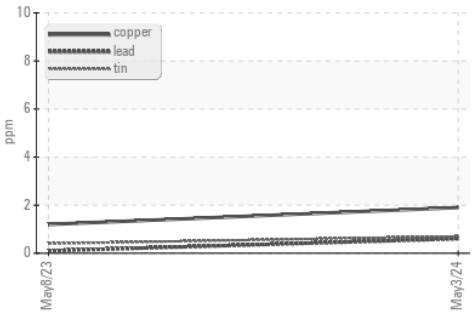
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		▲ **8.3**	12.4	---

GRAPHS

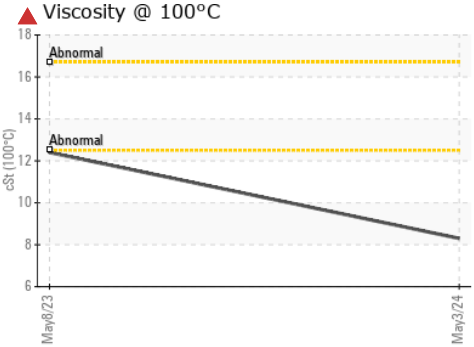
Ferrous Alloys



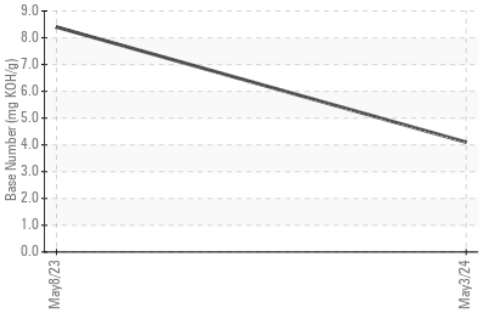
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0923663
Lab Number : 06198978
Unique Number : 11061101
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

Received : 04 Jun 2024
Tested : 06 Jun 2024
Diagnosed : 06 Jun 2024 - Wes Davis

Apple Valley Waste - Chambersburg Location
5436 Sunset Pike
Chambersburg, PA
US 17202
Contact: Service Manager

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)

T:
F:

Report Id: AVWCHA [WUSCAR] 06198978 (Generated: 06/06/2024 09:45:21) Rev: 1

Submitted By: BOB MCQUADE