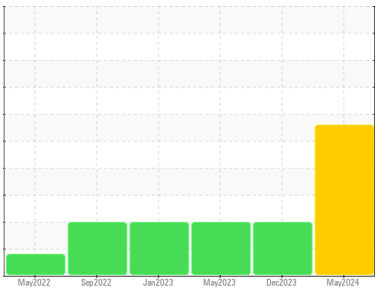
PROBLEM SUMMARY

Sample Rating Trend

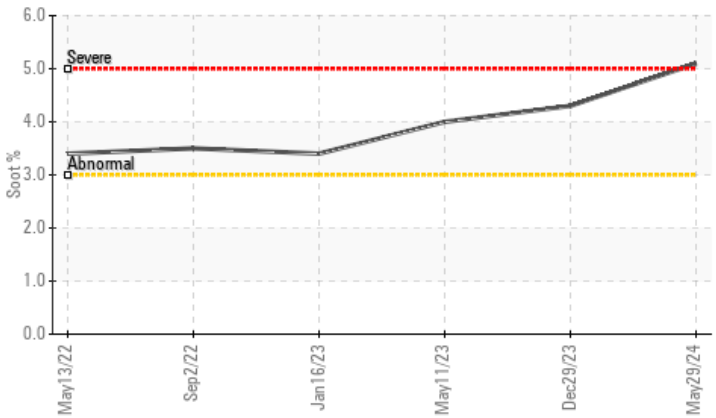


SOOT

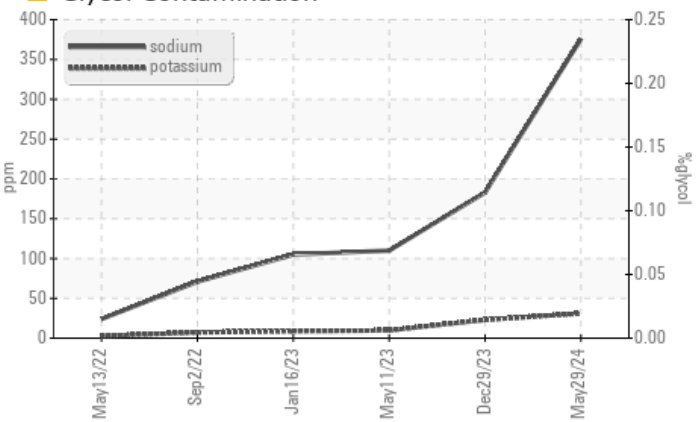
Machine Id
9906
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Soot %



▲ Glycol Contamination



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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	ABNORMAL
Sodium	ppm	ASTM D5185m	>158	▲ **376**	● 183	● 110
Potassium	ppm	ASTM D5185m	>20	▲ **31**	23	10
Soot %	%	*ASTM D7844	>3	▲ **5.1**	▲ 4.3	▲ 4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	▲ **0.0**	0.0	4.4

Customer Id: TOWCHANC
Sample No.: WC0887558
Lab Number: 06196207
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 Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

GLYCOL

29 Dec 2023 Diag: Doug Bogart

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.All component wear rates are normal. Sodium and/or potassium levels are high. There is an abnormal amount of solids and carbon present in the oil. Test for glycol is negative. The condition of the oil is acceptable for the time in service.

view report

GLYCOL

11 May 2023 Diag: Don Baldridge

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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. Sodium and/or potassium levels are high. There is an abnormal amount of solids and carbon present in the oil. Test for glycol is negative. 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

GLYCOL

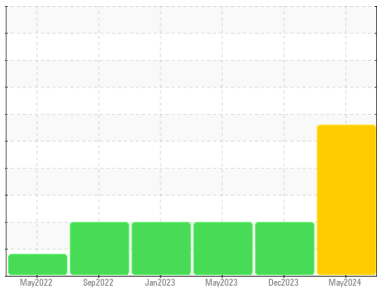
16 Jan 2023 Diag: Don Baldridge

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. Sodium and/or potassium levels are high. There is an abnormal amount of solids and carbon present in the oil. Test for glycol is negative. 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



SOOT

Machine Id
9906
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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
Sodium and/or potassium levels are high. There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition
The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0887558**	WC0844970	WC0810346
Sample Date		Client Info		**29 May 2024**	29 Dec 2023	11 May 2023
Machine Age	mls	Client Info		**368052**	362643	357095
Oil Age	mls	Client Info		**6000**	6000	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

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	>100	**25**	25	18
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	2	3
Lead	ppm	ASTM D5185m	>40	**<1**	2	2
Copper	ppm	ASTM D5185m	>330	**2**	4	2
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**39**	17	10
Barium	ppm	ASTM D5185m	10	**0**	3	0
Molybdenum	ppm	ASTM D5185m	100	**103**	89	75
Manganese	ppm	ASTM D5185m		**<1**	0	<1
Magnesium	ppm	ASTM D5185m	450	**348**	314	332
Calcium	ppm	ASTM D5185m	3000	**1828**	1831	1921
Phosphorus	ppm	ASTM D5185m	1150	**1090**	973	1051
Zinc	ppm	ASTM D5185m	1350	**1256**	1247	1275
Sulfur	ppm	ASTM D5185m	4250	**3845**	3606	3824

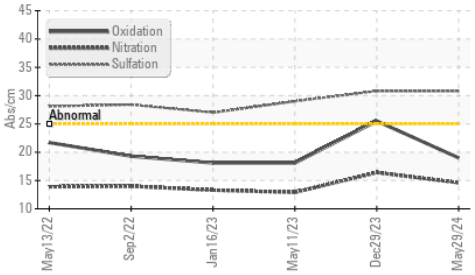
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**18**	11	7
Sodium	ppm	ASTM D5185m	>158	▲ **376**	● 183	● 110
Potassium	ppm	ASTM D5185m	>20	▲ **31**	23	10
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	▲ **5.1**	▲ 4.3	▲ 4
Nitration	Abs/cm	*ASTM D7624	>20	**14.6**	16.4	12.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**30.8**	30.8	29.0

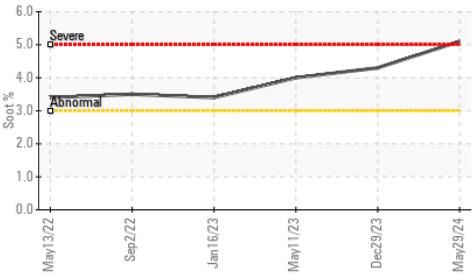
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.0**	25.5	18.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	▲ **0.0**	0.0	4.4

OIL ANALYSIS REPORT

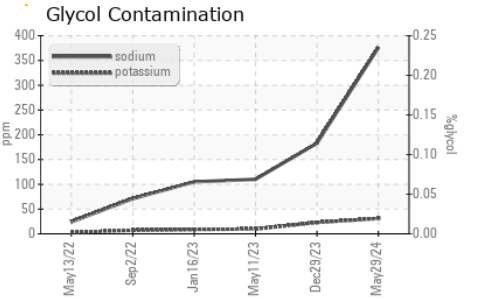
FT-IR (Direct Trend)



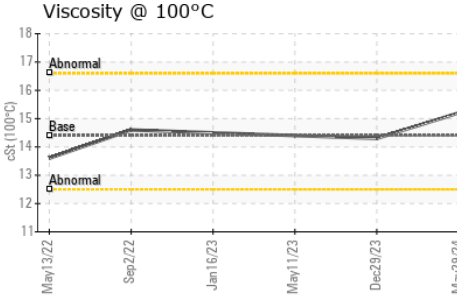
Soot %



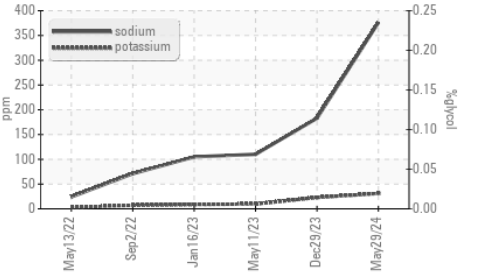
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

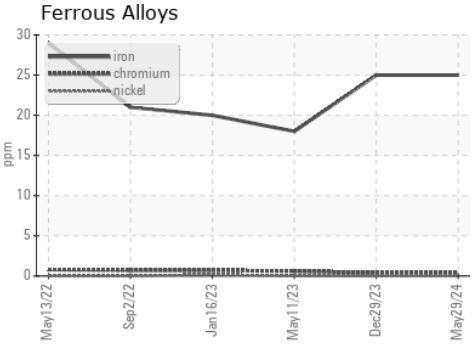


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

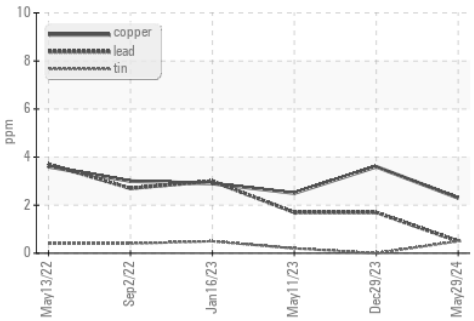
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**15.2**	14.3	14.4

GRAPHS

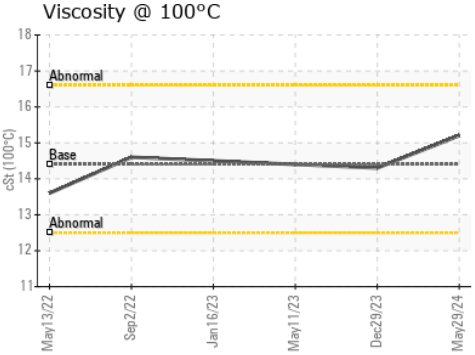
Ferrous Alloys



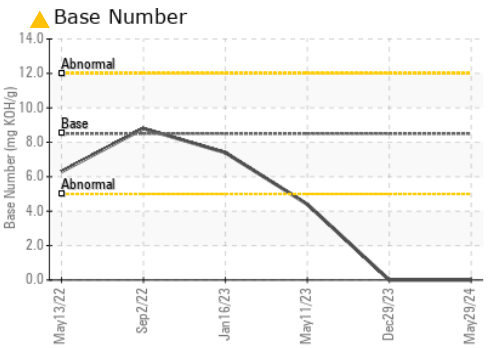
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0887558
Lab Number : 06196207
Unique Number : 11058330
Test Package : FLEET (Additional Tests: Glycol)

Received : 31 May 2024
Tested : 04 Jun 2024
Diagnosed : 04 Jun 2024 - Jonathan Hester

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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