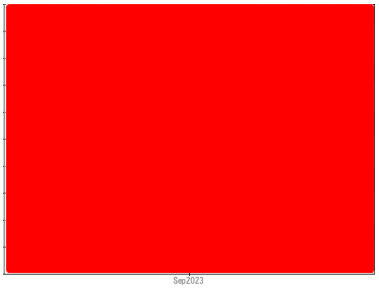
PROBLEM SUMMARY

Sample Rating Trend

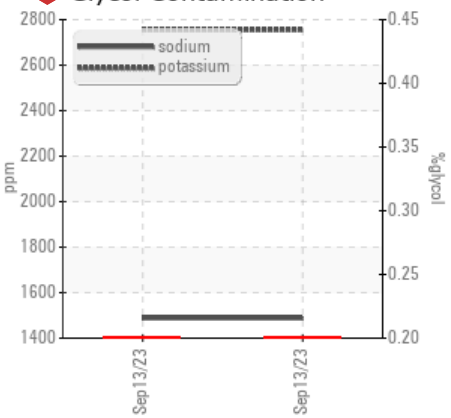


GLYCOL

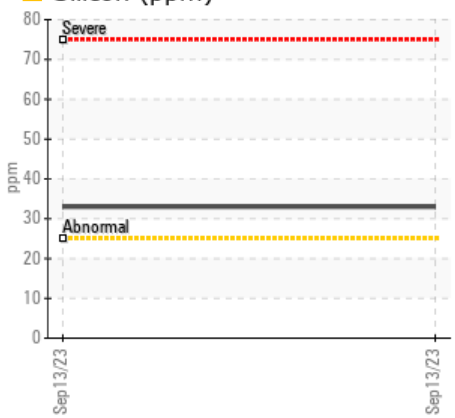
Machine Id
FREIGHTLINER 3065
Component
Diesel Engine
Fluid
NOT GIVEN (--- GAL)

COMPONENT CONDITION SUMMARY

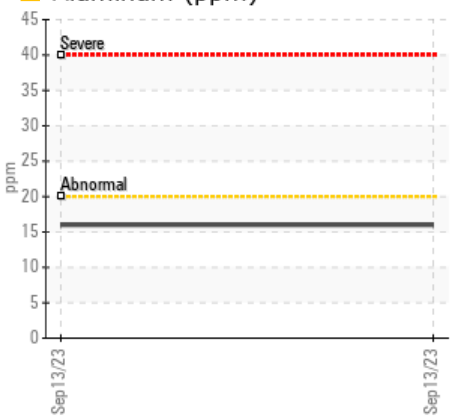
Glycol Contamination



Silicon (ppm)



Aluminum (ppm)



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ **16**	---	---
Silicon	ppm	ASTM D5185m	>25	▲ **33**	---	---
Sodium	ppm	ASTM D5185m		▲ **1487**	---	---
Potassium	ppm	ASTM D5185m	>20	▲ **2755**	---	---
Glycol	%	*ASTM D2982		⬢ **0.20**	---	---

Customer Id: SAPPCOL
Sample No.: SBP0005483
Lab Number: 05964983
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

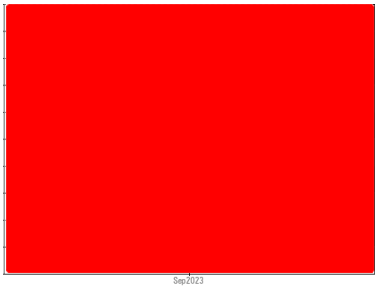
RECOMMENDED ACTIONS

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.
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
FREIGHTLINER 3065
Component
Diesel Engine
Fluid
NOT GIVEN (--- 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 the air filter, air induction system, and any areas where dirt may enter the component. 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. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

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		**SBP0005483**	---	---
Sample Date		Client Info		**13 Sep 2023**	---	---
Machine Age	mls	Client Info		**0**	---	---
Oil Age	mls	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**SEVERE**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**78**	---	---
Chromium	ppm	ASTM D5185m	>20	**8**	---	---
Nickel	ppm	ASTM D5185m	>4	**2**	---	---
Titanium	ppm	ASTM D5185m		**<1**	---	---
Silver	ppm	ASTM D5185m	>3	**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ **16**	---	---
Lead	ppm	ASTM D5185m	>40	**2**	---	---
Copper	ppm	ASTM D5185m	>330	**8**	---	---
Tin	ppm	ASTM D5185m	>15	**<1**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**4**	---	---
Barium	ppm	ASTM D5185m		**0**	---	---
Molybdenum	ppm	ASTM D5185m		**311**	---	---
Manganese	ppm	ASTM D5185m		**1**	---	---
Magnesium	ppm	ASTM D5185m		**947**	---	---
Calcium	ppm	ASTM D5185m		**1113**	---	---
Phosphorus	ppm	ASTM D5185m		**1102**	---	---
Zinc	ppm	ASTM D5185m		**1309**	---	---
Sulfur	ppm	ASTM D5185m		**3314**	---	---

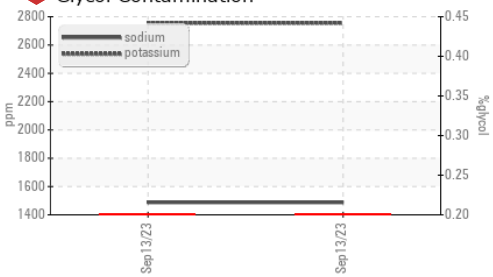
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **33**	---	---
Sodium	ppm	ASTM D5185m		▲ **1487**	---	---
Potassium	ppm	ASTM D5185m	>20	▲ **2755**	---	---
Glycol	%	*ASTM D2982		⬢ **0.20**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.8**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**19.1**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.5**	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.3**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		**17.0**	---	---

OIL ANALYSIS REPORT

Glycol Contamination

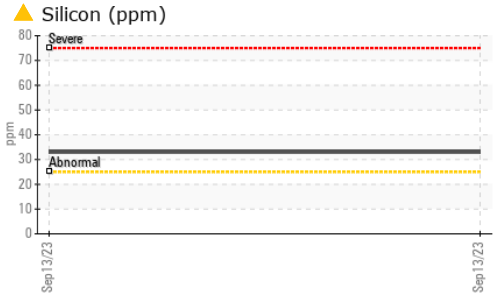


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar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

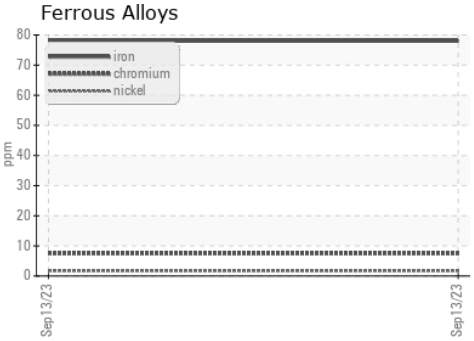
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**14.4**	---	---

GRAPHS

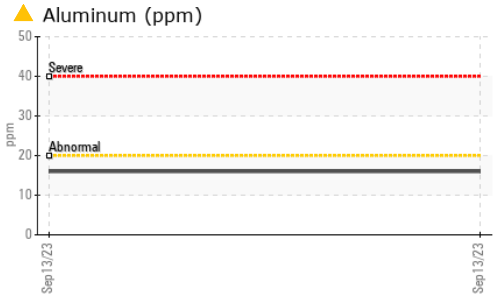
Silicon (ppm)



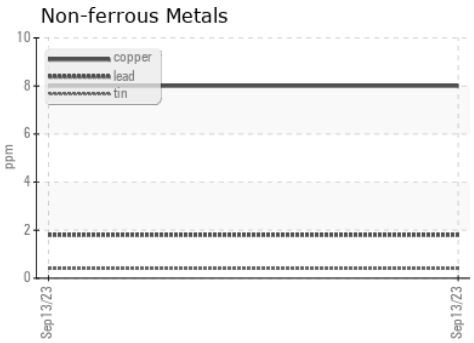
Ferrous Alloys



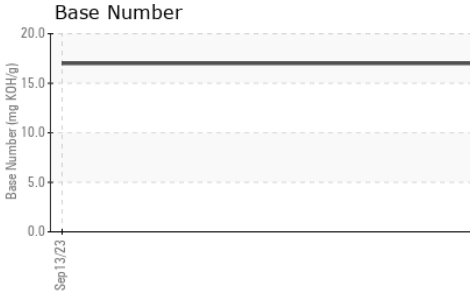
Aluminum (ppm)



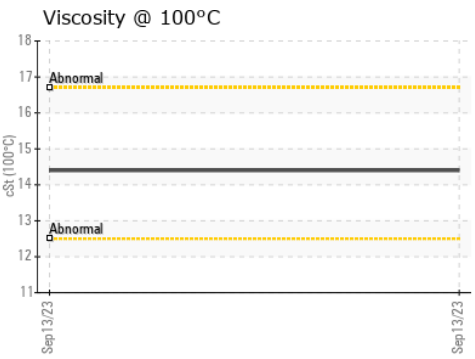
Non-ferrous Metals



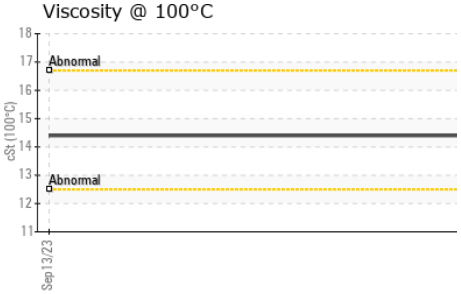
Base Number



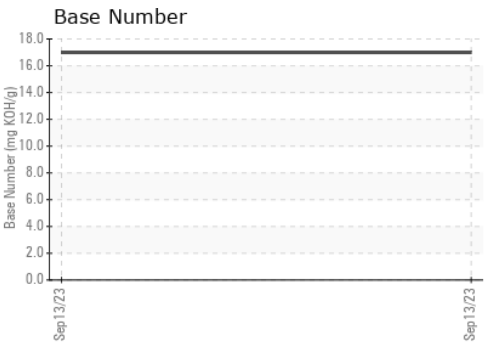
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0005483 **Received** : 29 Sep 2023
Lab Number : 05964983 **Diagnosed** : 03 Oct 2023
Unique Number : 10671534 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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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