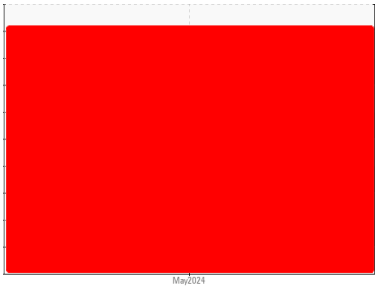
PROBLEM SUMMARY

Sample Rating Trend

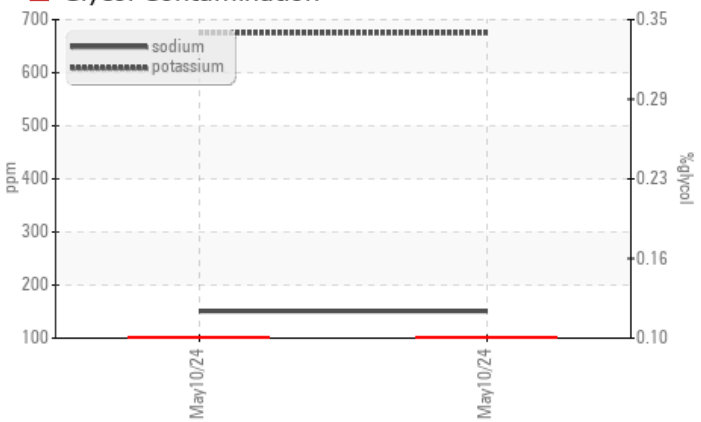


GLYCOL

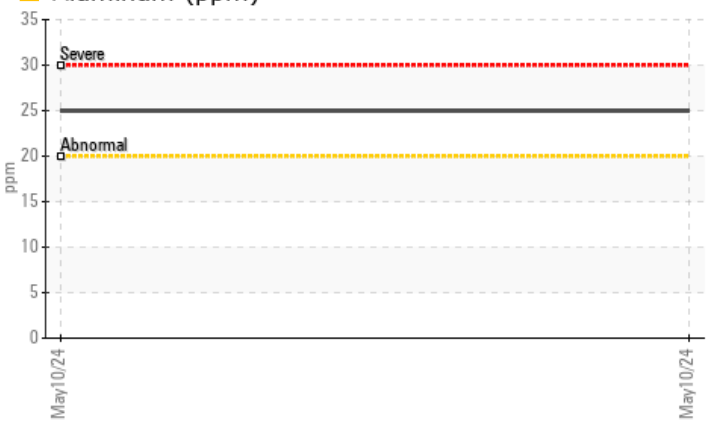
Area
(SB93938) OLANDER BUS SERVICE
Machine Id
INTERNATIONAL 9681-55
Component
Diesel Engine
Fluid
RIDGELINE FULL SYNTHETIC 5W-40 CK-4 (17 QTS)

COMPONENT CONDITION SUMMARY

▲ Glycol Contamination



▲ Aluminum (ppm)



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ **25**	---	---
Potassium	ppm	ASTM D5185m	>20	▲ **675**	---	---
Glycol	%	*ASTM D2982		▲ **0.10**	---	---

Customer Id: OLADET
Sample No.: WC0932912
Lab Number: 06221034
Test Package: FLEET

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

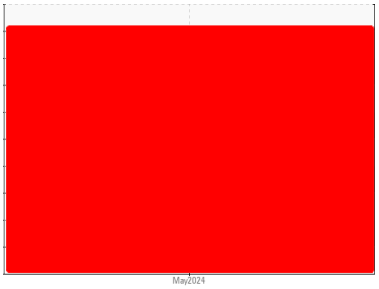
RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Flush System	---	---	?	We advise that you flush the component thoroughly before re-filling with oil.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Area
(SB93938) OLANDER BUS SERVICE
Machine Id
INTERNATIONAL 9681-55
Component
Diesel Engine
Fluid
RIDGELINE FULL SYNTHETIC 5W-40 CK-4 (17 QTS)

DIAGNOSIS

Recommendation
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.

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

Contamination
Test for glycol is positive. There is a high concentration of glycol present in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. 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		**WC0932912**	---	---
Sample Date		Client Info		**10 May 2024**	---	---
Machine Age	mls	Client Info		**81840**	---	---
Oil Age	mls	Client Info		**8000**	---	---
Oil Changed		Client Info		**Not Changd**	---	---
Sample Status				**SEVERE**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	---	---
Water		WC Method	>0.2	**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>130	**88**	---	---
Chromium	ppm	ASTM D5185m	>10	**1**	---	---
Nickel	ppm	ASTM D5185m	>4	**0**	---	---
Titanium	ppm	ASTM D5185m	>2	**0**	---	---
Silver	ppm	ASTM D5185m	>2	**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ **25**	---	---
Lead	ppm	ASTM D5185m	>20	**0**	---	---
Copper	ppm	ASTM D5185m	>125	**3**	---	---
Tin	ppm	ASTM D5185m	>4	**0**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**97**	---	---
Barium	ppm	ASTM D5185m		**0**	---	---
Molybdenum	ppm	ASTM D5185m	70	**110**	---	---
Manganese	ppm	ASTM D5185m		**<1**	---	---
Magnesium	ppm	ASTM D5185m	1160	**659**	---	---
Calcium	ppm	ASTM D5185m	820	**1056**	---	---
Phosphorus	ppm	ASTM D5185m	1150	**788**	---	---
Zinc	ppm	ASTM D5185m	1270	**1144**	---	---
Sulfur	ppm	ASTM D5185m	3140	**2982**	---	---

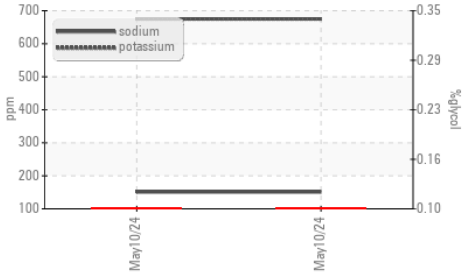
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	---	---
Sodium	ppm	ASTM D5185m		● **151**	---	---
Potassium	ppm	ASTM D5185m	>20	▲ **675**	---	---
Glycol	%	*ASTM D2982		▲ **0.10**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.7**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**11.3**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.0**	---	---

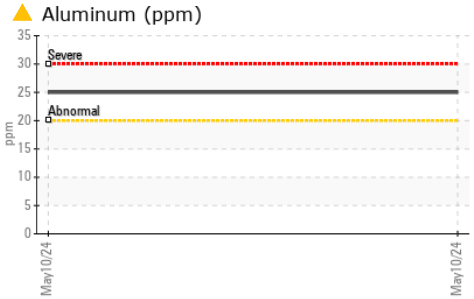
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.3**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	**6.6**	---	---

OIL ANALYSIS REPORT

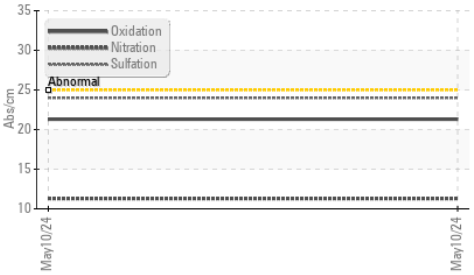
Glycol Contamination



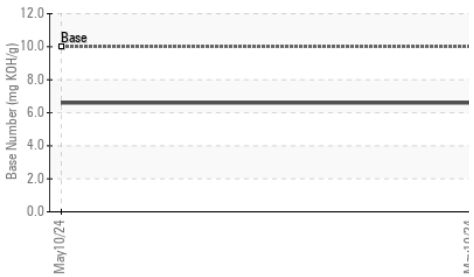
Aluminum (ppm)



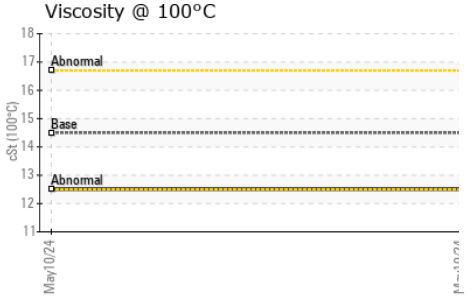
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

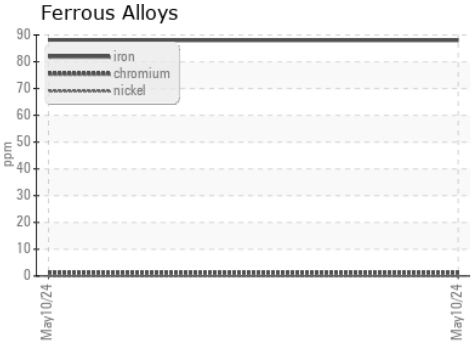


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar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

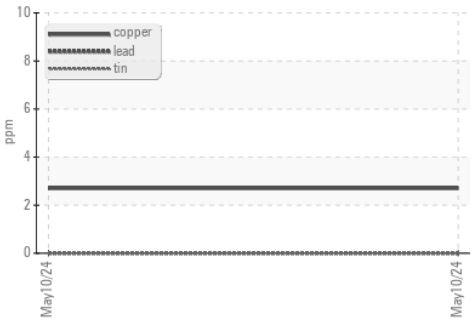
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.5	**12.5**	---	---

GRAPHS

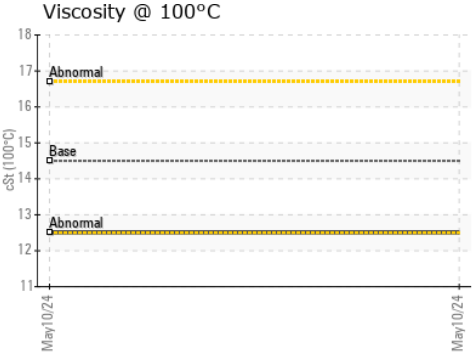
Ferrous Alloys



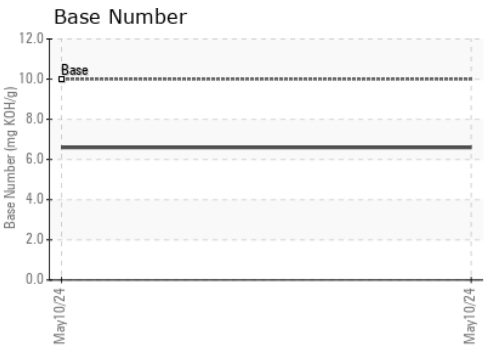
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0932912 **Received** : 26 Jun 2024
Lab Number : 06221034 **Tested** : 28 Jun 2024
Unique Number : 11099231 **Diagnosed** : 28 Jun 2024 - Wes Davis
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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Report Id: OLADET [WUSCAR] 06221034 (Generated: 06/28/2024 20:03:10) Rev: 1

Submitted By: JEFF WILSON