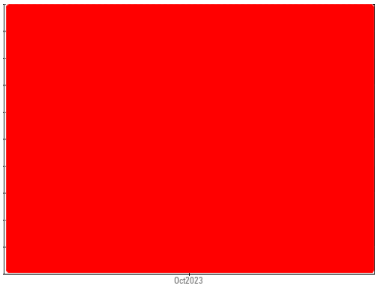
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Area
[S13282]
Machine Id
ZDRC02481
Component
Diesel Engine
Fluid
SHELL 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you monitor for an abnormal oil pressure drop and noise. 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 you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Test values may be askew due high concentration of free water present in sample.

Wear

Copper ppm levels are severe. Bearing wear is indicated.

Contamination

Test for glycol is positive. There is a high concentration of glycol present in the oil. There is a high concentration of water present in the oil. Excessive free water present.

Fluid Condition

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		**WC0686196**	---	---
Sample Date		Client Info		**19 Oct 2023**	---	---
Machine Age	hrs	Client Info		**2897**	---	---
Oil Age	hrs	Client Info		**200**	---	---
Oil Changed		Client Info		**Not Changd**	---	---
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 D5185(m)	>100	**29**	---	---
Chromium	ppm	ASTM D5185(m)	>20	**2**	---	---
Nickel	ppm	ASTM D5185(m)	>4	**2**	---	---
Titanium	ppm	ASTM D5185(m)		**<1**	---	---
Silver	ppm	ASTM D5185(m)	>3	**<1**	---	---
Aluminum	ppm	ASTM D5185(m)	>20	**3**	---	---
Lead	ppm	ASTM D5185(m)	>40	**21**	---	---
Copper	ppm	ASTM D5185(m)	>330	**510**	---	---
Tin	ppm	ASTM D5185(m)	>15	**1**	---	---
Antimony	ppm	ASTM D5185(m)		**<1**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**67**	---	---
Barium	ppm	ASTM D5185(m)		**<1**	---	---
Molybdenum	ppm	ASTM D5185(m)		**136**	---	---
Manganese	ppm	ASTM D5185(m)		**1**	---	---
Magnesium	ppm	ASTM D5185(m)		**381**	---	---
Calcium	ppm	ASTM D5185(m)		**1566**	---	---
Phosphorus	ppm	ASTM D5185(m)		**1081**	---	---
Zinc	ppm	ASTM D5185(m)		**1210**	---	---
Sulfur	ppm	ASTM D5185(m)		**2646**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

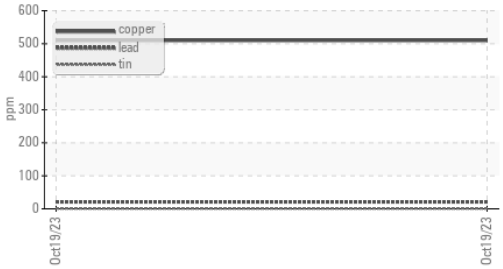
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**44**	---	---
Sodium	ppm	ASTM D5185(m)	>150	**1212**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**309**	---	---
Glycol	%	ASTM D7922*		**>.70**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**12.8**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**17.3**	---	---

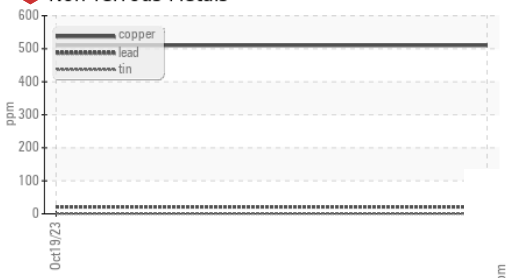
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.2**	---	---

OIL ANALYSIS REPORT

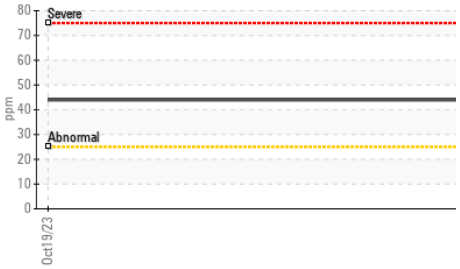
Non-ferrous Metals



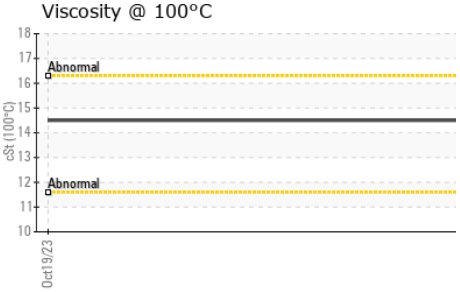
Non-ferrous Metals



Silicon (ppm)



Viscosity @ 100°C

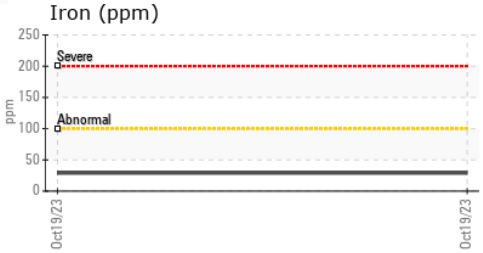


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**VLITE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.2	▲ **.2%**	---	---
Free Water	scalar	Visual*		▲ **1%**	---	---

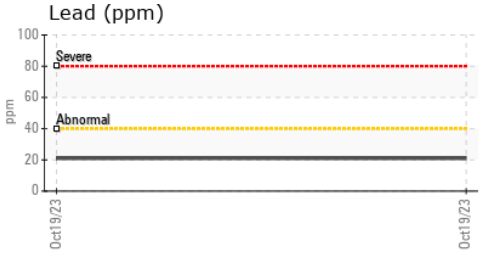
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)		**14.5**	---	---

GRAPHS

Iron (ppm)

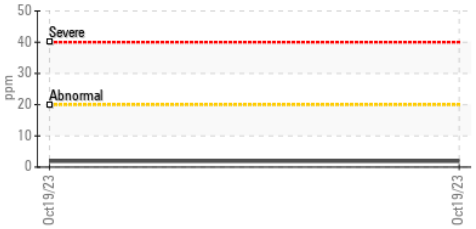


Lead (ppm)

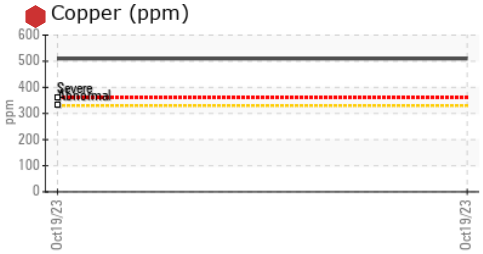


Aluminum (ppm)

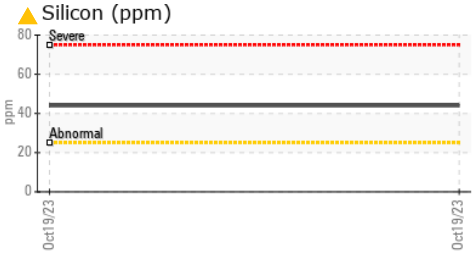
Chromium (ppm)



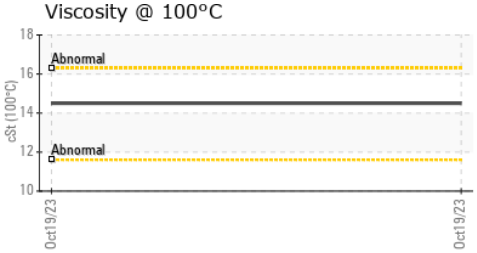
Copper (ppm)



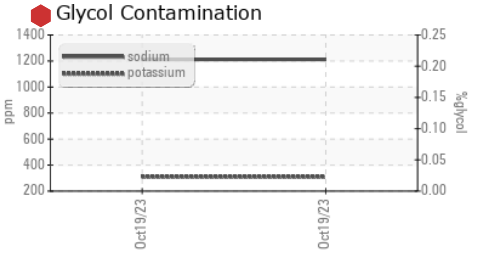
Silicon (ppm)



Viscosity @ 100°C



Glycol Contamination



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0686196 **Received** : 25 Oct 2023
Lab Number : 02591600 **Diagnosed** : 25 Oct 2023
Unique Number : 5668679 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, Visual)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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