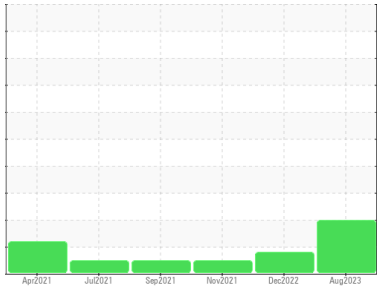
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
7420
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

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

Contamination
Light fuel dilution occurring.

Fluid Condition
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		**WC0702952**	WC0737840	WC0624791
Sample Date		Client Info		**05 Aug 2023**	10 Dec 2022	27 Nov 2021
Machine Age	kms	Client Info		**292710**	232356	138540
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	**39**	33	32
Chromium	ppm	ASTM D5185(m)	>20	**1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**<1**	<1	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	▲ **22**	▲ 28	12
Lead	ppm	ASTM D5185(m)	>40	**0**	<1	<1
Copper	ppm	ASTM D5185(m)	>330	**2**	2	2
Tin	ppm	ASTM D5185(m)	>15	**0**	0	<1
Antimony	ppm	ASTM D5185(m)		**0**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	<1
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	**25**	33	31
Barium	ppm	ASTM D5185(m)	10	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	100	**2**	12	3
Manganese	ppm	ASTM D5185(m)		**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	**841**	727	739
Calcium	ppm	ASTM D5185(m)	3000	**1623**	1432	1381
Phosphorus	ppm	ASTM D5185(m)	1150	**818**	761	713
Zinc	ppm	ASTM D5185(m)	1350	**892**	804	784
Sulfur	ppm	ASTM D5185(m)	4250	**2585**	2500	2550
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**6**	7	7
Sodium	ppm	ASTM D5185(m)	>158	**3**	3	3
Potassium	ppm	ASTM D5185(m)	>20	**11**	10	12
Fuel	%	ASTM D7593*	>3.0	▲ **2**	<1.0	<1.0
Glycol	%	ASTM D7922*		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.4**	0.9	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**12.4**	12.2	11.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	**26.7**	26.5	25.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.3**	21.3	21.6

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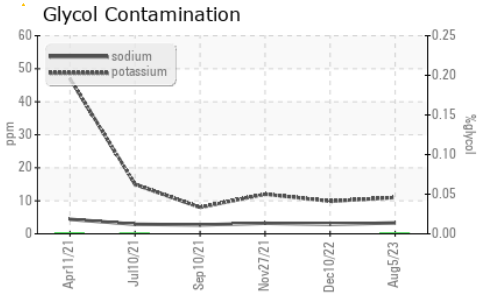
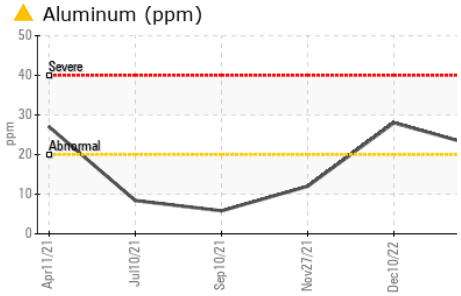
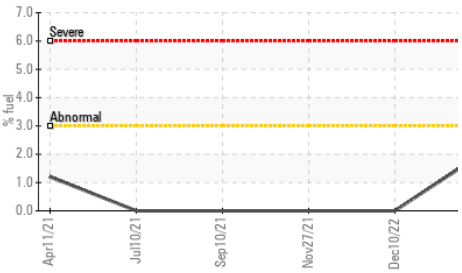
Glycol Contamination



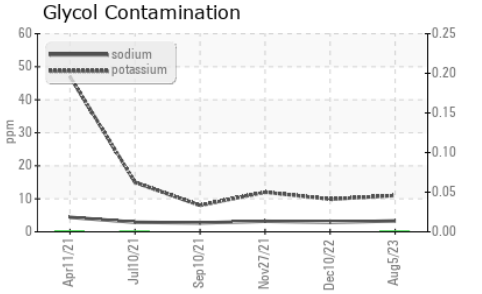
Aluminum (ppm)



Fuel Dilution



Glycol Contamination

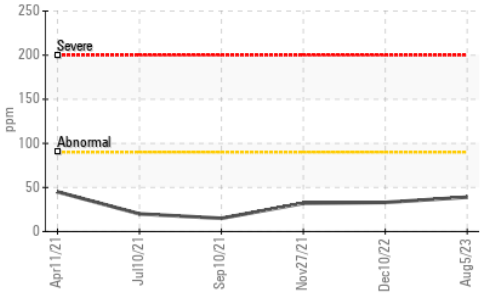


VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

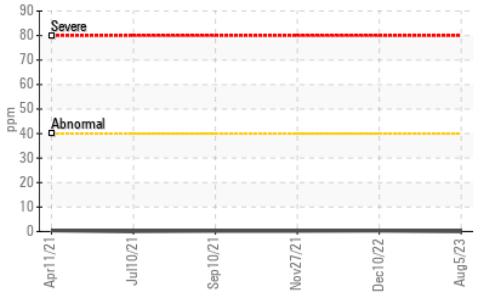
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ **11.3**	11.5	10.9

GRAPHS

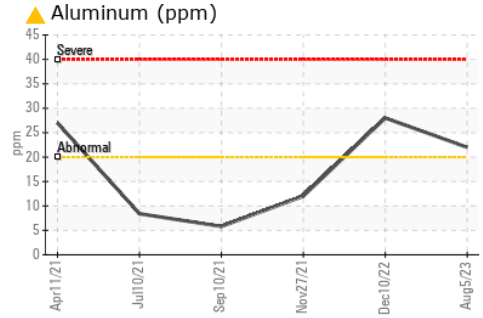
Iron (ppm)



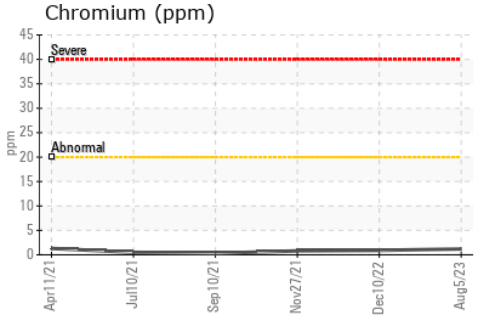
Lead (ppm)



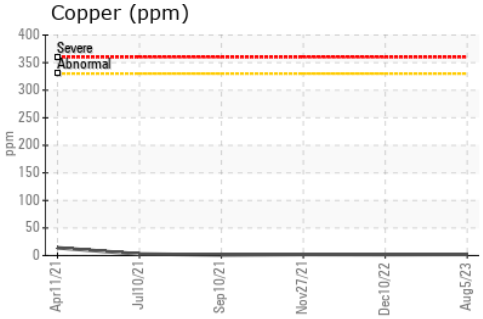
Aluminum (ppm)



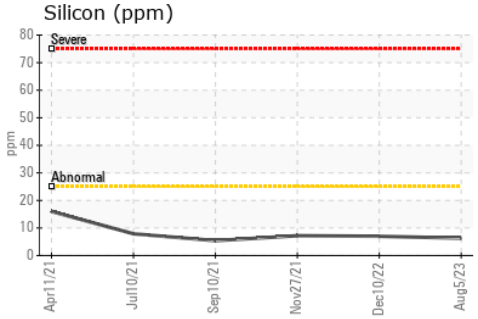
Chromium (ppm)



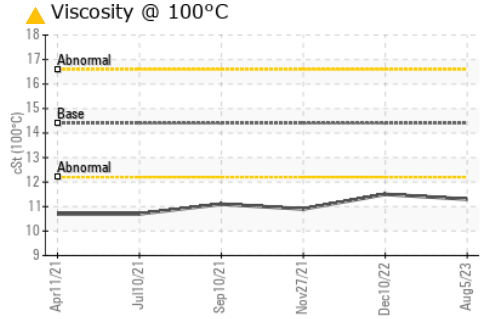
Copper (ppm)



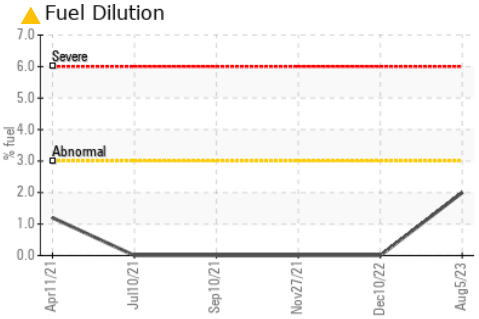
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0702952 **Received** : 11 Aug 2023
Lab Number : 02575296 **Diagnosed** : 14 Aug 2023
Unique Number : 5620347 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel)

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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