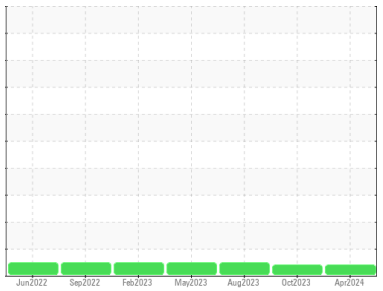
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
291965
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0924160**	WC0796583	WC0796456
Sample Date		Client Info		**02 Apr 2024**	07 Oct 2023	15 Aug 2023
Machine Age	kms	Client Info		**290302**	640490	252324
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	Changed	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**14**	33	20
Chromium	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**0**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	<1
Silver	ppm	ASTM D5185(m)	>3	**0**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	**5**	8	6
Lead	ppm	ASTM D5185(m)	>40	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>330	**1**	3	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	0
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	**53**	20	26
Barium	ppm	ASTM D5185(m)	10	**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	100	**1**	<1	1
Manganese	ppm	ASTM D5185(m)		**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	**732**	732	703
Calcium	ppm	ASTM D5185(m)	3000	**1327**	1363	1294
Phosphorus	ppm	ASTM D5185(m)	1150	**679**	653	672
Zinc	ppm	ASTM D5185(m)	1350	**779**	784	754
Sulfur	ppm	ASTM D5185(m)	4250	**2476**	2465	2437
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	6	5
Sodium	ppm	ASTM D5185(m)	>158	**2**	4	3
Potassium	ppm	ASTM D5185(m)	>20	**4**	6	6
Fuel	%	ASTM D7593*	>5	**1.5**	1.5	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.3**	0.8	0.6
Nitration	Abs/cm	ASTM D7624*	>20	**9.9**	12.6	11.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**19.8**	26.1	24.3

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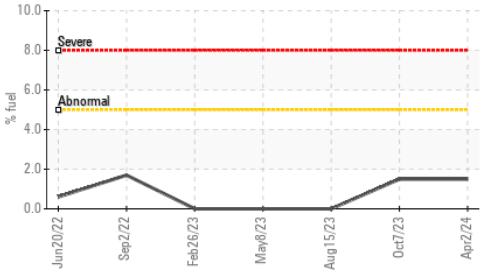
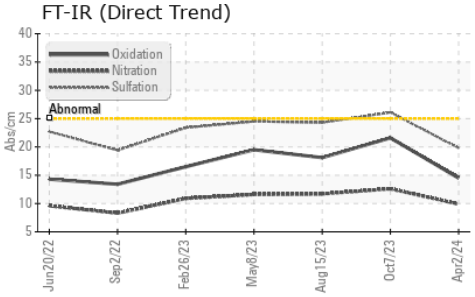
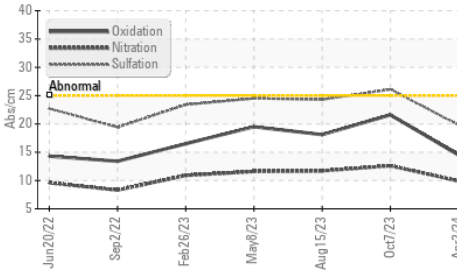
Fuel Dilution



FT-IR (Direct Trend)



FT-IR (Direct Trend)



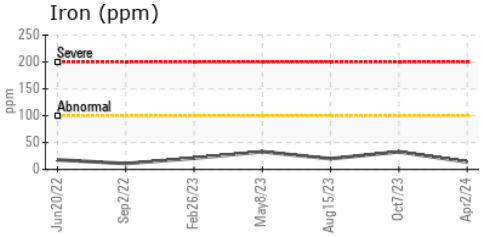
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**14.5**	21.6	18.1

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**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

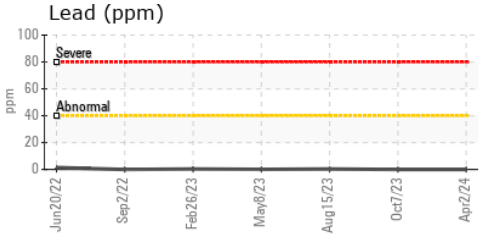
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ **11.2**	▲ 11.3	11.2

GRAPHS

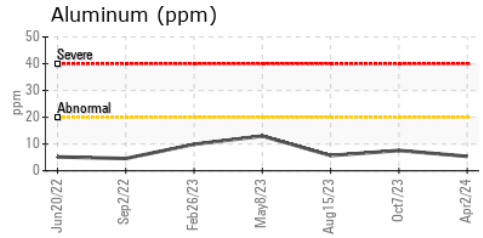
Iron (ppm)



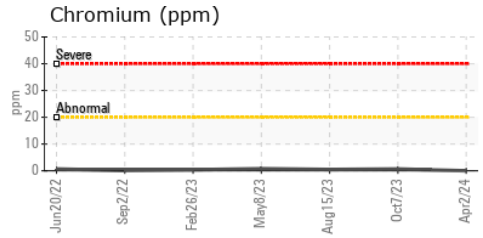
Lead (ppm)



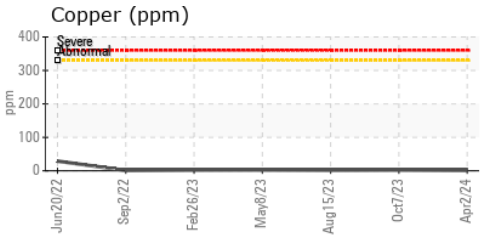
Aluminum (ppm)



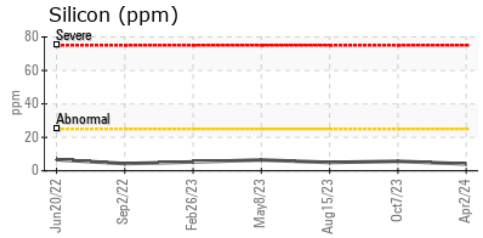
Chromium (ppm)



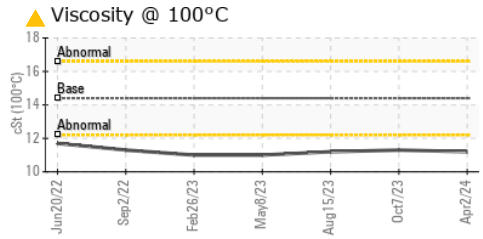
Copper (ppm)



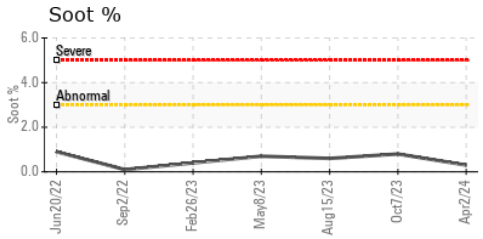
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0924160 **Received** : 17 Apr 2024
Lab Number : 02629559 **Tested** : 19 Apr 2024
Unique Number : 5762691 **Diagnosed** : 19 Apr 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel, 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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