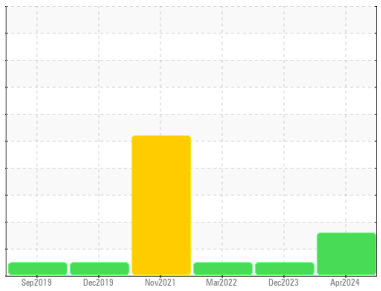
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id
7295
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for faulty combustion and a possible overheat condition. The oil change at the time of sampling has been noted.

Wear
All component wear rates are normal.

Contamination
There is an abnormal level of sulfation indicated. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

Fluid Condition
A small degree of oil oxidation was indicated. The oil is no longer serviceable.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0924029**	WC0853053	WC0654463
Sample Date		Client Info		**17 Apr 2024**	07 Dec 2023	08 Mar 2022
Machine Age	kms	Client Info		**220118**	214748	173631
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
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)	>90	**79**	41	27
Chromium	ppm	ASTM D5185(m)	>20	**3**	2	2
Nickel	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	**10**	9	8
Lead	ppm	ASTM D5185(m)	>40	**6**	6	5
Copper	ppm	ASTM D5185(m)	>330	**3**	2	1
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	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

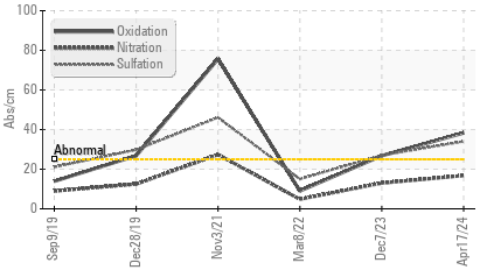
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	**30**	33	49
Barium	ppm	ASTM D5185(m)	10	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	100	**71**	72	4
Manganese	ppm	ASTM D5185(m)		**<1**	0	<1
Magnesium	ppm	ASTM D5185(m)	450	**106**	98	691
Calcium	ppm	ASTM D5185(m)	3000	**1897**	1912	1283
Phosphorus	ppm	ASTM D5185(m)	1150	**871**	915	689
Zinc	ppm	ASTM D5185(m)	1350	**1026**	1027	750
Sulfur	ppm	ASTM D5185(m)	4250	**2650**	3003	2404
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	5	4
Sodium	ppm	ASTM D5185(m)		**3**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**16**	12	12

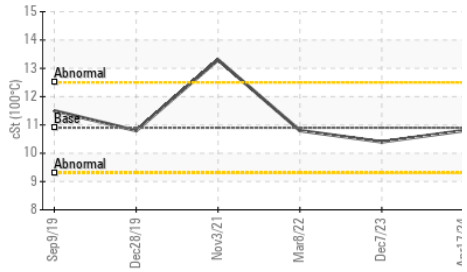
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.5**	0.3	0
Nitration	Abs/cm	ASTM D7624*	>20	**16.8**	13.0	4.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	▲ **34.0**	27.0	15.0

OIL ANALYSIS REPORT

FT-IR (Direct Trend)



Viscosity @ 100°C



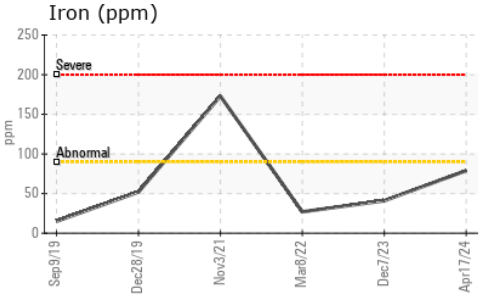
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	▲ **38.3**	26.8	9.0

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

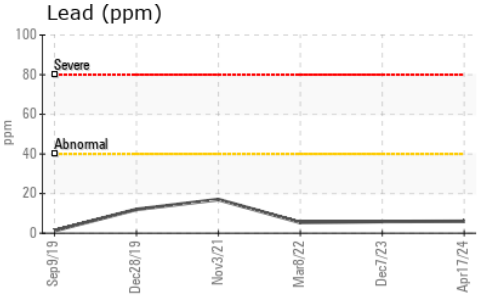
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	**10.8**	10.4	10.8

GRAPHS

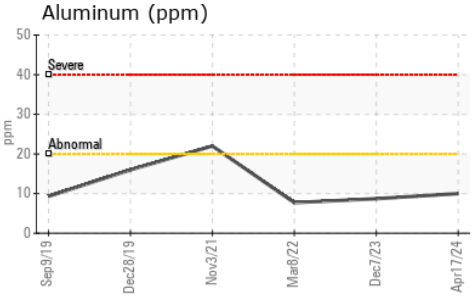
Iron (ppm)



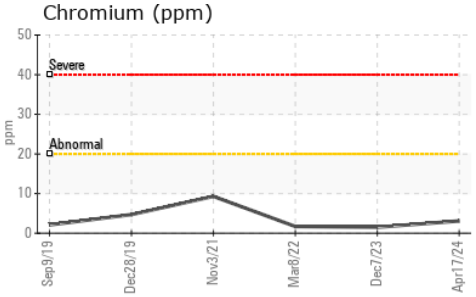
Lead (ppm)



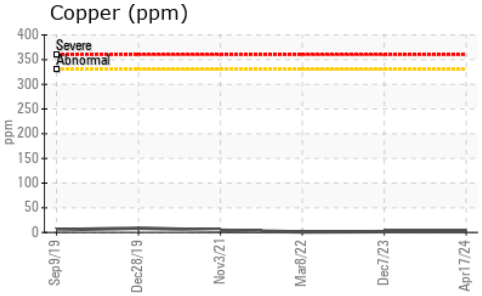
Aluminum (ppm)



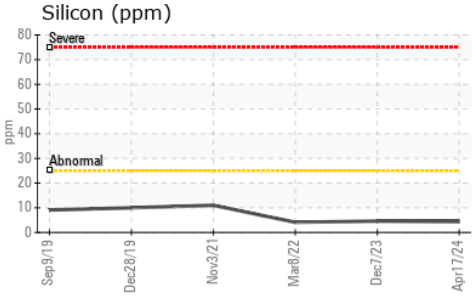
Chromium (ppm)



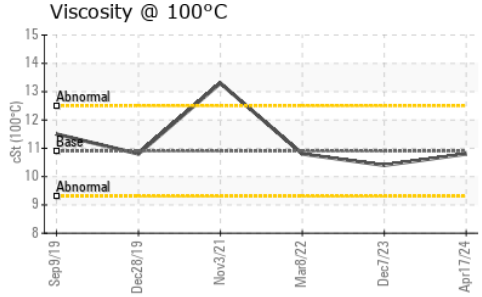
Copper (ppm)



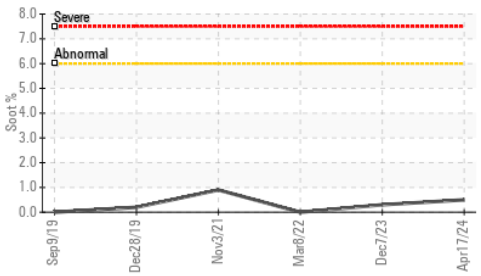
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0924029
Lab Number : 02629431
Unique Number : 5762563
Test Package : MOB 1

Received : 17 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Kevin Marson

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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