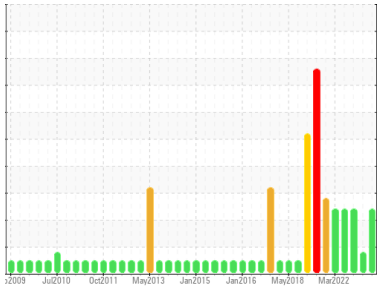
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
NOVA 60039
Component
Rear Diesel Engine
Fluid
VALVOLINE 15W40 (24 LTR)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0887276**	WC0809080	WC0770743
Sample Date		Client Info		**10 Jan 2024**	15 Sep 2023	23 Mar 2023
Machine Age	kms	Client Info		**925288**	905357	883738
Oil Age	kms	Client Info		**7000**	10000	10000
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	ABNORMAL	SEVERE

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)	>75	**20**	31	32
Chromium	ppm	ASTM D5185(m)	>5	**1**	2	2
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	**6**	3	7
Lead	ppm	ASTM D5185(m)	>25	**1**	9	4
Copper	ppm	ASTM D5185(m)	>100	**2**	2	2
Tin	ppm	ASTM D5185(m)	>4	**<1**	<1	1
Antimony	ppm	ASTM D5185(m)		**0**	0	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

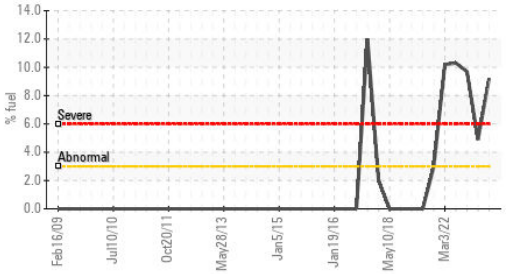
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	39	**1**	3	9
Barium	ppm	ASTM D5185(m)	1	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	49	**56**	59	60
Manganese	ppm	ASTM D5185(m)	1	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	616	**916**	945	894
Calcium	ppm	ASTM D5185(m)	1554	**984**	1037	1118
Phosphorus	ppm	ASTM D5185(m)	899	**1015**	1003	993
Zinc	ppm	ASTM D5185(m)	1069	**1121**	1147	1119
Sulfur	ppm	ASTM D5185(m)	2624	**2475**	2336	2439
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	5	6
Sodium	ppm	ASTM D5185(m)		**2**	6	6
Potassium	ppm	ASTM D5185(m)	>20	**<1**	2	1
Fuel	%	ASTM D7593*	>3.0	**9.2**	4.9	9.7

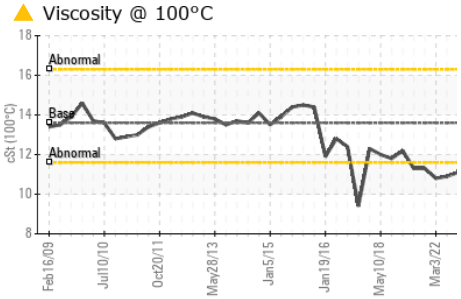
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**1**	1.4	1
Nitration	Abs/cm	ASTM D7624*	>20	**10.5**	12.7	13.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.1**	28.2	26.9

OIL ANALYSIS REPORT

Fuel Dilution



Viscosity @ 100°C



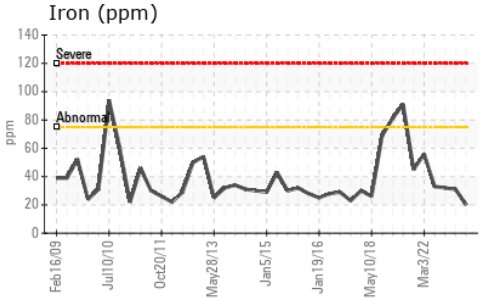
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.4**	27.7	22.2

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

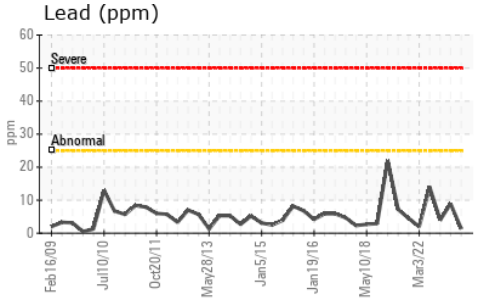
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	13.6	▲ **11.0**	12.4	▲ 11.1

GRAPHS

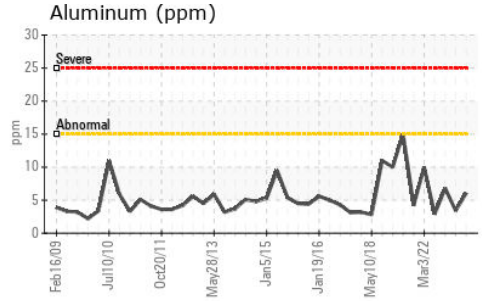
Iron (ppm)



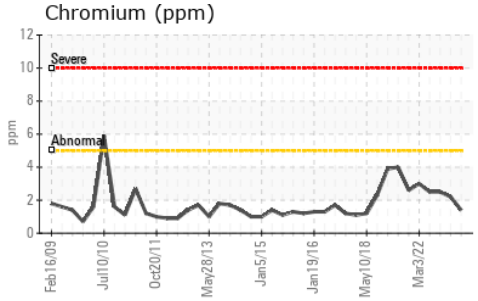
Lead (ppm)



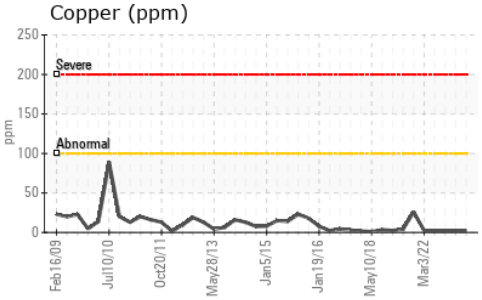
Aluminum (ppm)



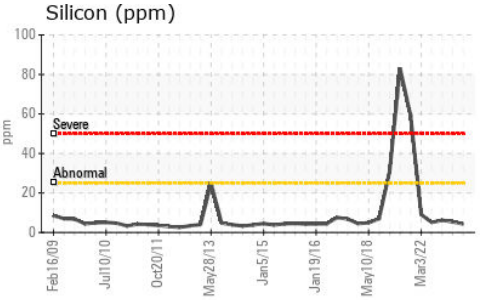
Chromium (ppm)



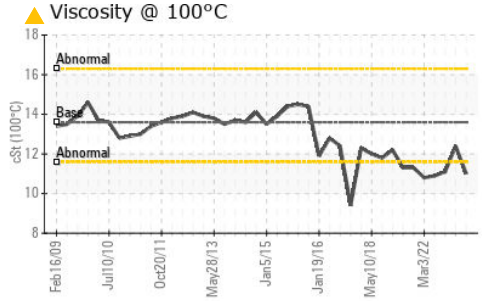
Copper (ppm)



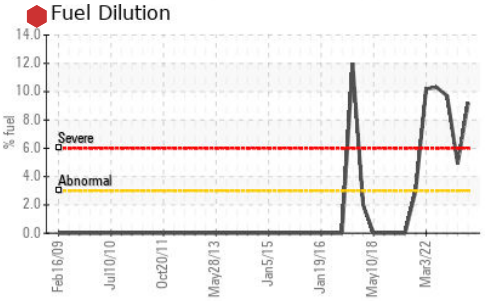
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0887276 **Recieved** : 15 Jan 2024
Lab Number : 02608675 **Diagnosed** : 16 Jan 2024
Unique Number : 5709761 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: 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.

CITY OF PETERBOROUGH
791 WEBBER AVENUE,, MUNICIPAL OPERATIONS CENTRE
PETERBOROUGH, ON
CA K9J 8N3
Contact: Frank Curran
fcurran@peterborough.ca
T: (705)742-7777
F: (705)743-3223