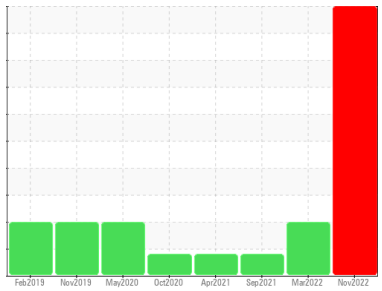
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
50000 Series
Machine Id
Navistar 50500
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (40 LTR)

DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

Iron ppm levels are severe. PQ levels are severe. Cylinder, crank, or cam shaft wear is indicated. The very high ferrous density (PQ) index indicates that severe wear is occurring.

Contamination

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. There is no indication of any contamination in the oil.

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		**WC0750594**	WC0671287	WC0608144
Sample Date		Client Info		**06 Nov 2022**	14 Mar 2022	13 Sep 2021
Machine Age	mls	Client Info		**243661**	215204	187691
Oil Age	mls	Client Info		**215002**	27645	24717
Oil Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	0.3	0.0
Glycol		WC Method		**NEG**	0.0	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**325**	---	---
Iron	ppm	ASTM D5185(m)	>100	**351**	43	31
Chromium	ppm	ASTM D5185(m)	>20	**2**	2	1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**<1**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**6**	7	5
Lead	ppm	ASTM D5185(m)	>40	**<1**	<1	1
Copper	ppm	ASTM D5185(m)	>330	**2**	3	4
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	<1	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)	2	**11**	1	2
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**57**	60	60
Manganese	ppm	ASTM D5185(m)	0	**4**	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	**911**	1030	1016
Calcium	ppm	ASTM D5185(m)	1050	**1045**	1067	1086
Phosphorus	ppm	ASTM D5185(m)	995	**1099**	1074	1114
Zinc	ppm	ASTM D5185(m)	1180	**1136**	1230	1226
Sulfur	ppm	ASTM D5185(m)	2600	**3312**	2483	2469
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**11**	6	6
Sodium	ppm	ASTM D5185(m)		**7**	2	3
Potassium	ppm	ASTM D5185(m)	>20	**8**	5	4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.7**	5.1	3.8
Nitration	Abs/cm	ASTM D7624*	>20	**9.9**	18.8	12.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**27.5**	36.7	27.4

OIL ANALYSIS REPORT

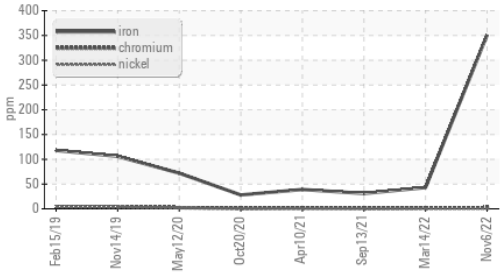
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**24.7**	37.6	19.6

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

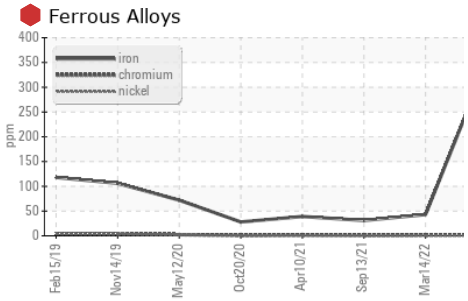
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**10.8**	13.4	13.1

GRAPHS

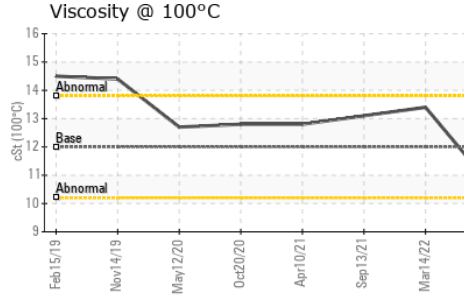
Ferrous Alloys



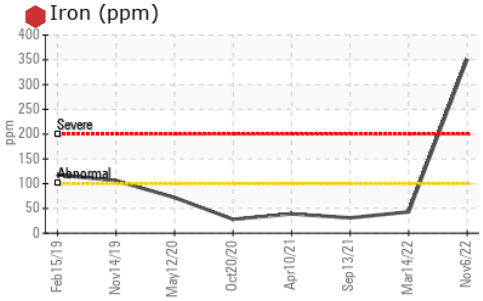
Ferrous Alloys



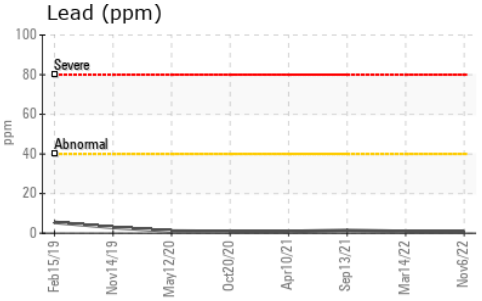
Viscosity @ 100°C



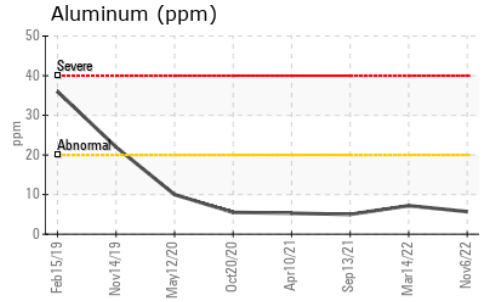
Iron (ppm)



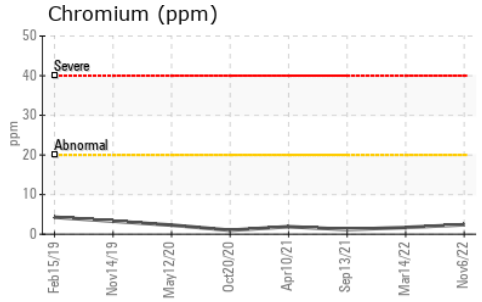
Lead (ppm)



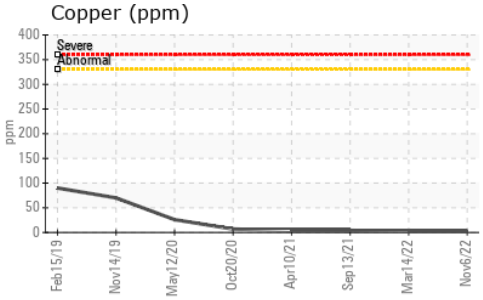
Aluminum (ppm)



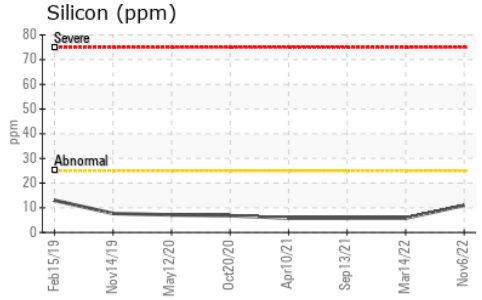
Chromium (ppm)



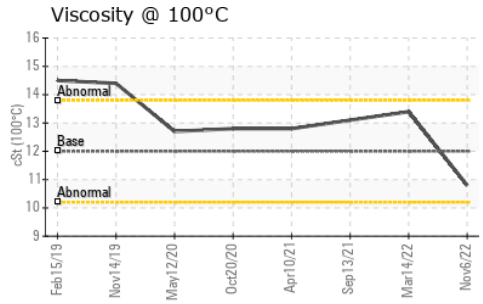
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



PQ

CALA
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOULIN TRANSPORT (GARAGE)**
Sample No. : WC0750594 **Received** : 09 Nov 2022 1335 SHAWSON DRIVE
Lab Number : 02521717 **Diagnosed** : 10 Nov 2022 MISSISSAUGA, ON
Unique Number : 5486698 **Diagnostician** : Kevin Marson CA L4W 1C4
Test Package : MOB 1 (Additional Tests: PQ) Contact: Travis Spence

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.

tspence@manitoulintransport.com
T:
F: (905)564-6361