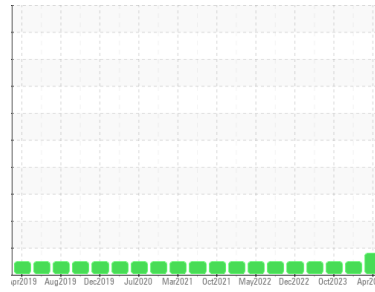




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
Navistar 52800

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 10W30 (40 LTR)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Wear

A sharp increase in the iron level is noted.

Contamination

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		WC0915076	WC0854816	WC0864513
Sample Date	Client Info		13 Apr 2024	21 Dec 2023	08 Oct 2023
Machine Age	mls	Client Info	529085	660504	496012
Oil Age	mls	Client Info	33073	0	32319
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			MARGINAL	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
PQ	ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m) >90	▲ 85	2	45
Chromium	ppm	ASTM D5185(m) >20	2	0	2
Nickel	ppm	ASTM D5185(m) >2	<1	0	0
Titanium	ppm	ASTM D5185(m) >2	0	0	0
Silver	ppm	ASTM D5185(m) >2	0	0	<1
Aluminum	ppm	ASTM D5185(m) >20	6	1	3
Lead	ppm	ASTM D5185(m) >40	5	0	18
Copper	ppm	ASTM D5185(m) >330	2	<1	1
Tin	ppm	ASTM D5185(m) >15	<1	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) 2	1	9	2
Barium	ppm	ASTM D5185(m) 0	0	0	<1
Molybdenum	ppm	ASTM D5185(m) 50	66	52	65
Manganese	ppm	ASTM D5185(m) 0	<1	0	0
Magnesium	ppm	ASTM D5185(m) 950	1071	853	1019
Calcium	ppm	ASTM D5185(m) 1050	1156	1194	1137
Phosphorus	ppm	ASTM D5185(m) 995	1073	1028	1042
Zinc	ppm	ASTM D5185(m) 1180	1288	1171	1286
Sulfur	ppm	ASTM D5185(m) 2600	2368	2846	2371
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	3	4	5
Sodium	ppm	ASTM D5185(m)	2	1	3
Potassium	ppm	ASTM D5185(m) >20	5	<1	<1

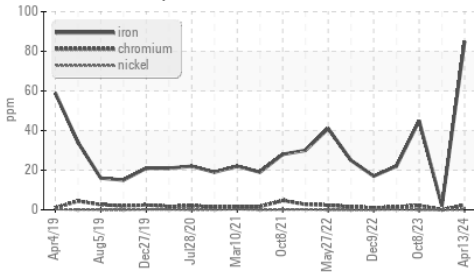
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >6	1	0	0.9
Nitration	Abs/cm	ASTM D7624* >20	13.0	5.3	13.5
Sulfation	Abs./1mm	ASTM D7415* >30	26.7	17.8	29.9



OIL ANALYSIS REPORT

▲ Ferrous Alloys



FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	24.4	13.4	29.3

VISUAL

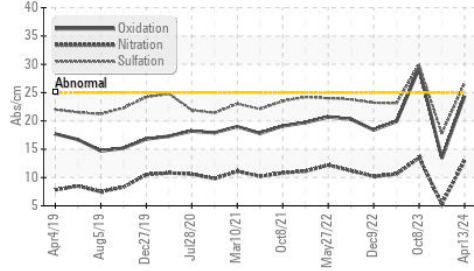
method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	NEG	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG

FLUID PROPERTIES

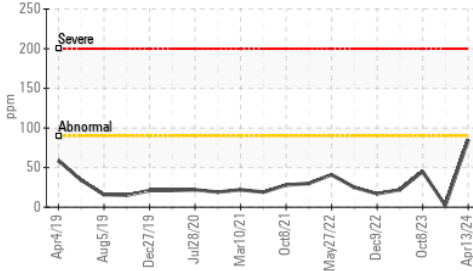
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	12.4	14.2	11.4

GRAPHS

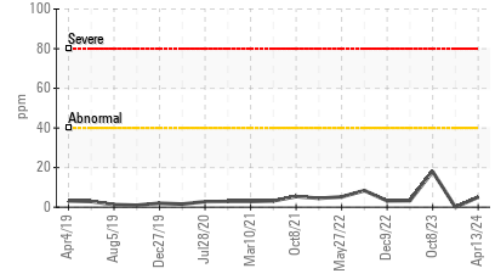
FT-IR (Direct Trend)



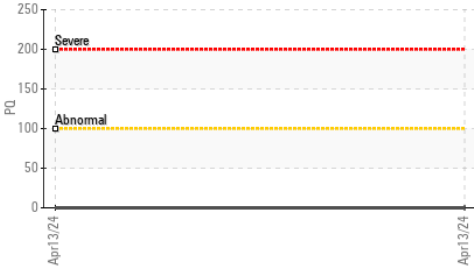
▲ Iron (ppm)



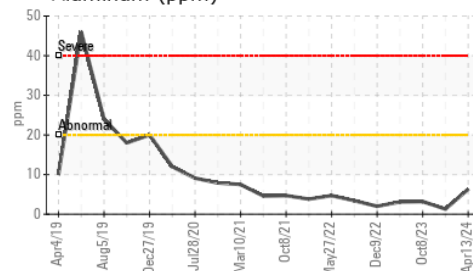
Lead (ppm)



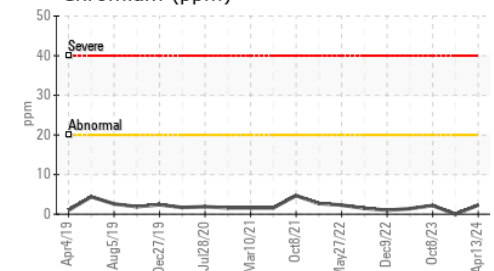
PQ



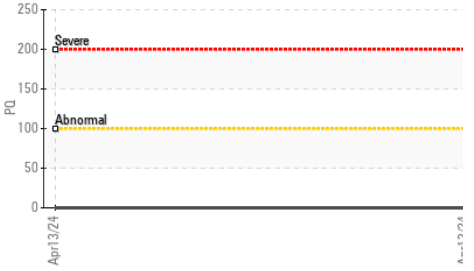
Aluminum (ppm)



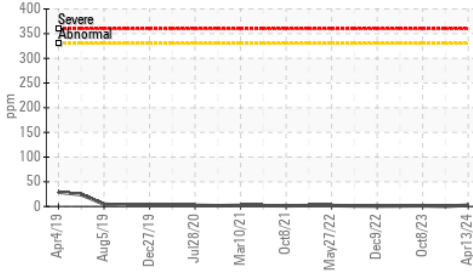
Chromium (ppm)



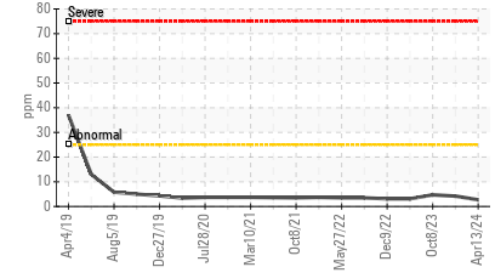
PQ



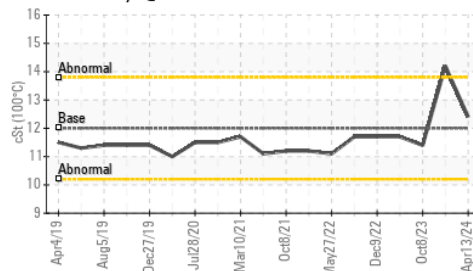
Copper (ppm)



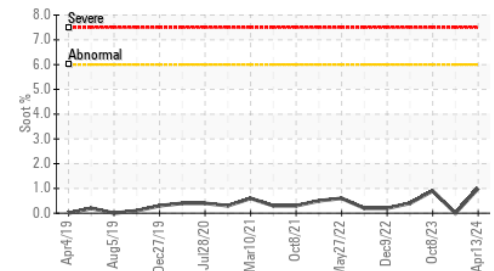
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0915076
Lab Number : **02629571**
Unique Number : 5762703
Test Package : MOB 1 (Additional Tests: PQ)
Received : 17 Apr 2024
Tested : 18 Apr 2024
Diagnosed : 18 Apr 2024 - Kevin Marson

MANITOU LIN TRANSPORT (GARAGE)
 1335 SHAWSON DRIVE
 MISSISSAUGA, ON
 CA L4W 1C4
 Contact: Travis Spence
 tspence@manitoulintransport.com

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.

F: (905)564-6361