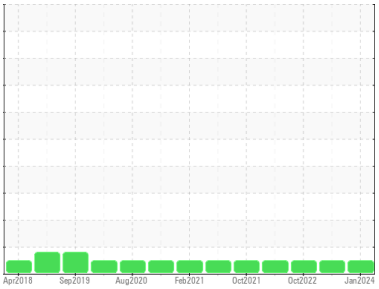
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
3000 Series
Machine Id
Navistar 3253
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (26 LTR)

DIAGNOSIS

Recommendation
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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

Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0886688**	WC0817383	WC0748818
Sample Date		Client Info		**06 Jan 2024**	17 Jun 2023	15 Oct 2022
Machine Age	mls	Client Info		**310583**	294745	255497
Oil Age	mls	Client Info		**15583**	18294	20598
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	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)	>75	**63**	47	40
Chromium	ppm	ASTM D5185(m)	>5	**2**	1	<1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>15	**5**	5	6
Lead	ppm	ASTM D5185(m)	>25	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>100	**4**	1	2
Tin	ppm	ASTM D5185(m)	>4	**<1**	0	<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)	2	**40**	2	2
Barium	ppm	ASTM D5185(m)	0	**11**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**4**	64	62
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	**663**	1050	1007
Calcium	ppm	ASTM D5185(m)	1050	**1186**	1121	1122
Phosphorus	ppm	ASTM D5185(m)	995	**645**	1125	1094
Zinc	ppm	ASTM D5185(m)	1180	**714**	1273	1236
Sulfur	ppm	ASTM D5185(m)	2600	**2355**	2342	2461
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

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

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.6**	0.4	0.5
Nitration	Abs/cm	ASTM D7624*	>20	**16.3**	13.6	11.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**30.2**	28.7	24.4

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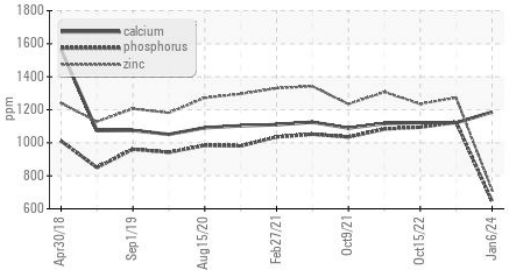
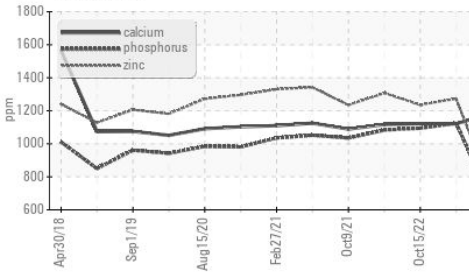
Additives



Additives



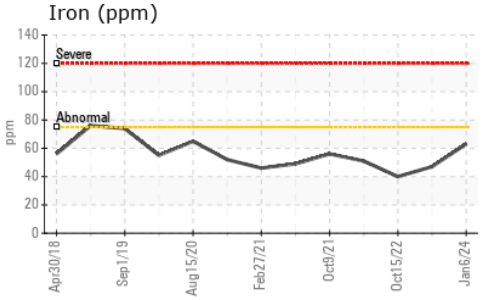
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**36.4**	32.7	23.4

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

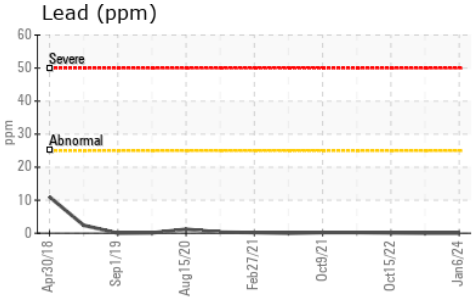
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**11.5**	10.8	13.7

GRAPHS

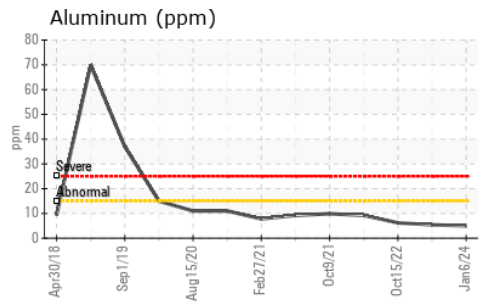
Iron (ppm)



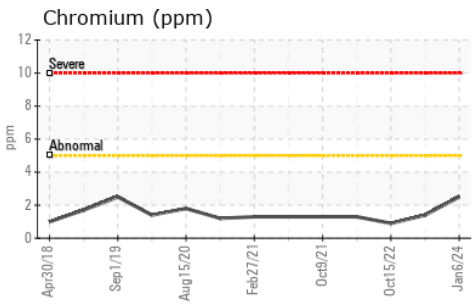
Lead (ppm)



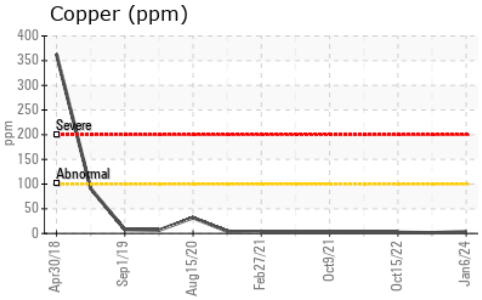
Aluminum (ppm)



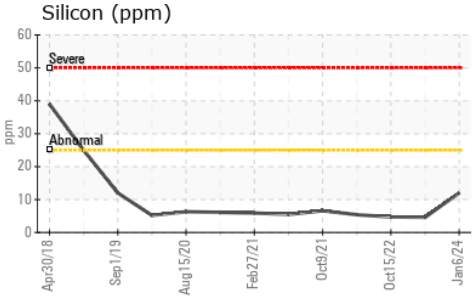
Chromium (ppm)



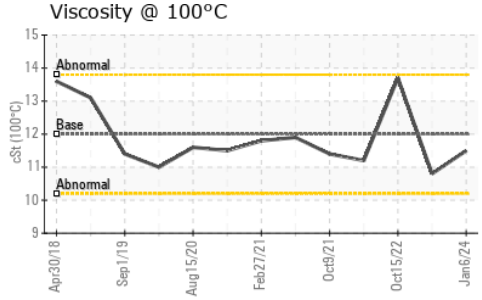
Copper (ppm)



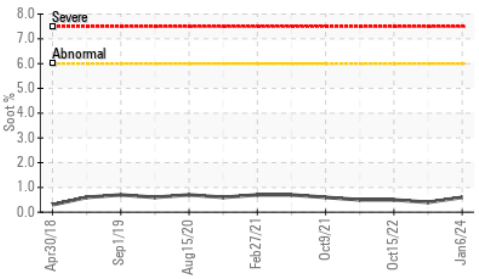
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOULIN TRANSPORT (GARAGE)**
Sample No. : WC0886688 **Recieved** : 09 Jan 2024 1335 SHAWSON DRIVE
Lab Number : 02607440 **Diagnosed** : 10 Jan 2024 MISSISSAUGA, ON
Unique Number : 5708526 **Diagnostician** : Kevin Marson CA L4W 1C4
Test Package : MOB 1 Contact: Travis Spence

To discuss this sample report, contact Customer Service at 1-800-268-2131. tspence@manitoulintransport.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T:
Validity of results and interpretation are based on the sample and information as supplied. F: (905)564-6361