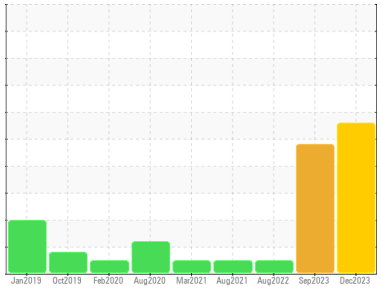
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Area
3000 Series
Machine Id
Navistar 3264
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (26 LTR)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Aluminum ppm levels are abnormal. Piston wear is indicated.

Contamination
Test for glycol is positive. There is a light concentration of glycol present 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		**WC0886684**	WC0805757	WC0717253
Sample Date		Client Info		**29 Dec 2023**	04 Sep 2023	31 Aug 2022
Machine Age	mls	Client Info		**217808**	198440	163905
Oil Age	mls	Client Info		**19368**	16240	12184
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	**68**	47	27
Chromium	ppm	ASTM D5185(m)	>5	**1**	1	<1
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	▲ **18**	11	7
Lead	ppm	ASTM D5185(m)	>25	**<1**	0	0
Copper	ppm	ASTM D5185(m)	>100	**8**	3	2
Tin	ppm	ASTM D5185(m)	>4	**0**	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**	2	2
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**85**	64	55
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	**904**	938	910
Calcium	ppm	ASTM D5185(m)	1050	**1048**	1024	1047
Phosphorus	ppm	ASTM D5185(m)	995	**846**	1029	1044
Zinc	ppm	ASTM D5185(m)	1180	**1135**	1172	1142
Sulfur	ppm	ASTM D5185(m)	2600	**2436**	2437	2442
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**24**	10	19
Sodium	ppm	ASTM D5185(m)		▲ **207**	▲ 50	2
Potassium	ppm	ASTM D5185(m)	>20	▲ **324**	▲ 137	4
Glycol	%	ASTM D7922*		▲ **0.029**	▲ 0.071	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.8**	0.7	0.5
Nitration	Abs/cm	ASTM D7624*	>20	**13.3**	12.1	9.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	**24.2**	22.9	20.2

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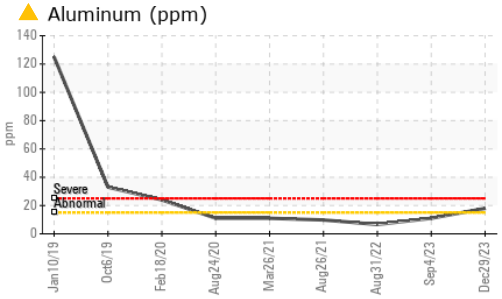
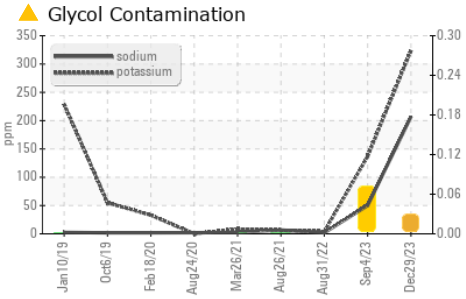
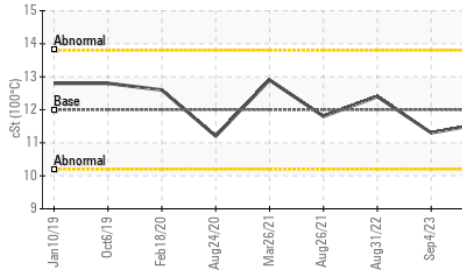
Aluminum (ppm)



Glycol Contamination



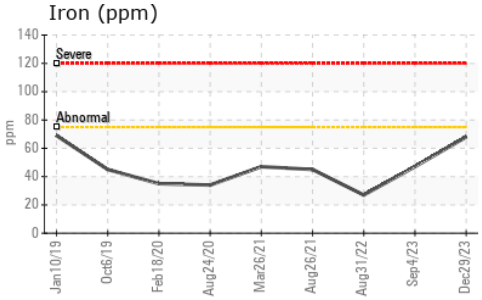
Viscosity @ 100°C



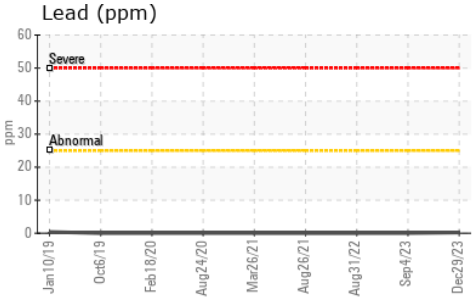
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**21.6**	19.5	16.1
VISUAL		**method**	**limit/base**	**current**	**history1**	**history2**
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG
FLUID PROPERTIES		**method**	**limit/base**	**current**	**history1**	**history2**
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**11.6**	11.3	12.4

GRAPHS

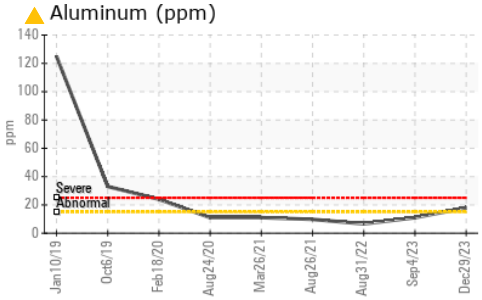
Iron (ppm)



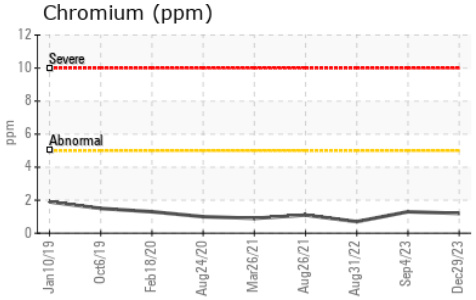
Lead (ppm)



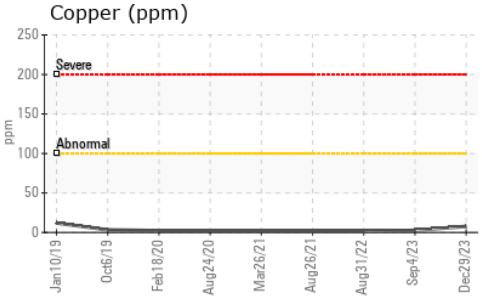
Aluminum (ppm)



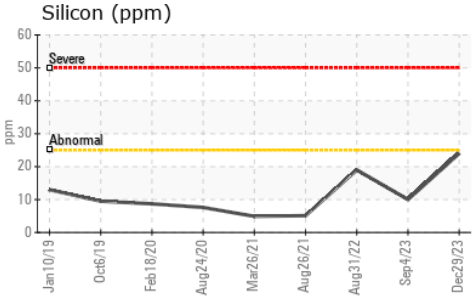
Chromium (ppm)



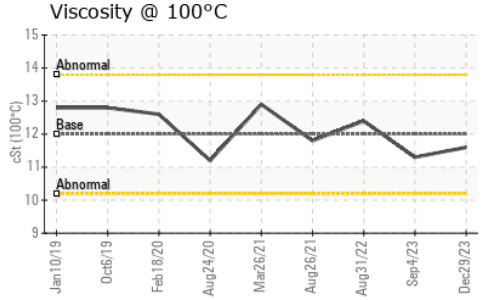
Copper (ppm)



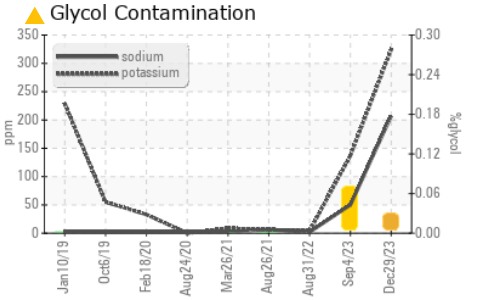
Silicon (ppm)



Viscosity @ 100°C



Glycol Contamination



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOULIN TRANSPORT (GARAGE)**
Sample No. : WC0886684 **Recieved** : 09 Jan 2024 1335 SHAWSON DRIVE
Lab Number : 02607412 **Diagnosed** : 09 Jan 2024 MISSISSAUGA, ON
Unique Number : 5708498 **Diagnostician** : Wes Davis 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