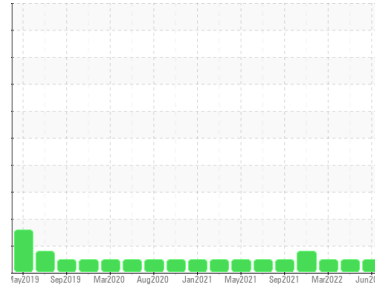




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
3000 Series
 Machine Id
Navistar 3284
 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		WC0817347	WC0709037	WC0671276
Sample Date	Client Info		16 Jun 2023	02 Jul 2022	12 Mar 2022
Machine Age	mls	Client Info	377551	342566	322694
Oil Age	mls	Client Info	21183	19872	20464
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
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>75	57	31	64
Chromium	ppm	ASTM D5185(m)	>5	2	1	2
Nickel	ppm	ASTM D5185(m)	>4	<1	0	<1
Titanium	ppm	ASTM D5185(m)	>2	4	<1	0
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>15	6	3	8
Lead	ppm	ASTM D5185(m)	>25	0	0	0
Copper	ppm	ASTM D5185(m)	>100	3	1	2
Tin	ppm	ASTM D5185(m)	>4	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		<1	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	18	3	2
Barium	ppm	ASTM D5185(m)	0	6	0	0
Molybdenum	ppm	ASTM D5185(m)	50	88	68	69
Manganese	ppm	ASTM D5185(m)	0	2	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	53	1107	1180
Calcium	ppm	ASTM D5185(m)	1050	2121	1278	1228
Phosphorus	ppm	ASTM D5185(m)	995	964	1124	1190
Zinc	ppm	ASTM D5185(m)	1180	1065	1406	1431
Sulfur	ppm	ASTM D5185(m)	2600	2937	2614	2570
Lithium	ppm	ASTM D5185(m)		2	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	10	6	9
Sodium	ppm	ASTM D5185(m)		8	2	2
Potassium	ppm	ASTM D5185(m)	>20	2	<1	2

INFRA-RED

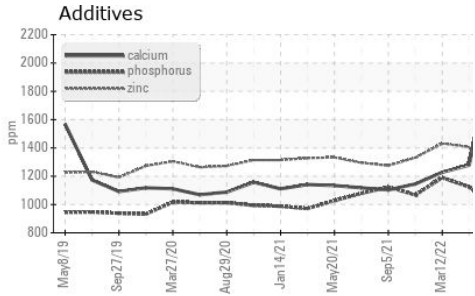
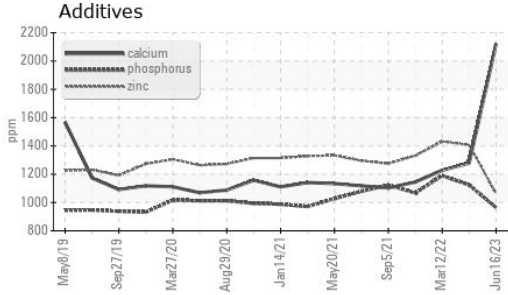
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	0.3	0.3	0.9
Nitration	Abs/cm	ASTM D7624*	>20	11.4	14.6	13.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	25.5	25.7	26.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	22.3	25.7	24.4



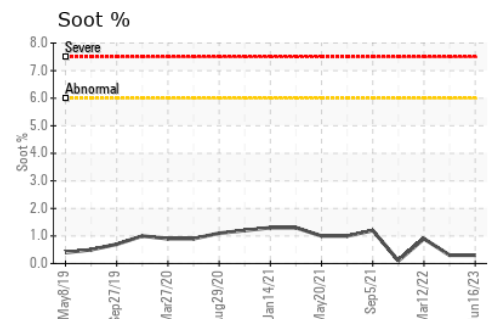
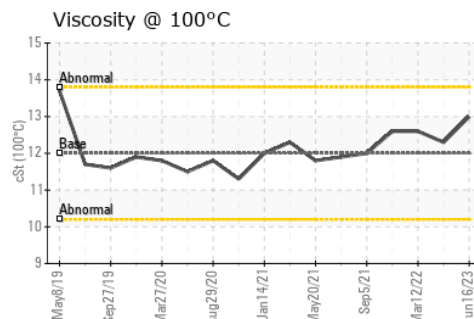
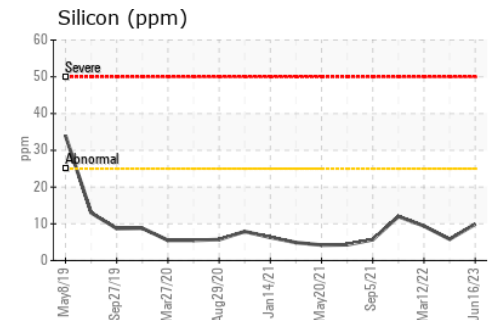
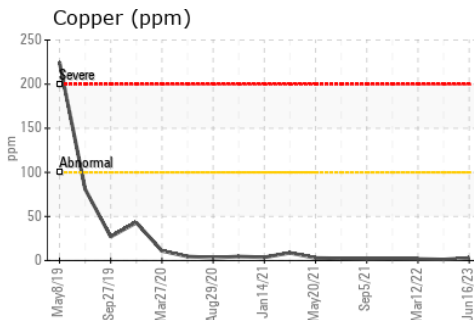
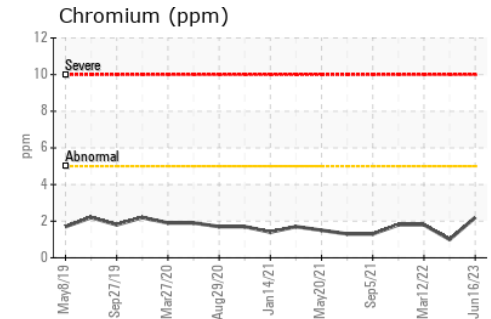
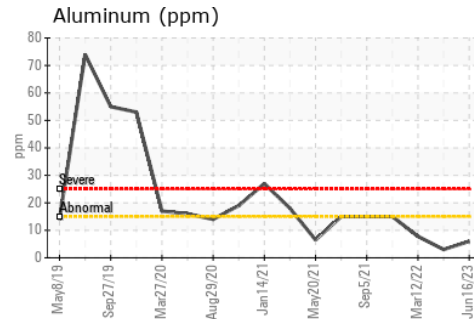
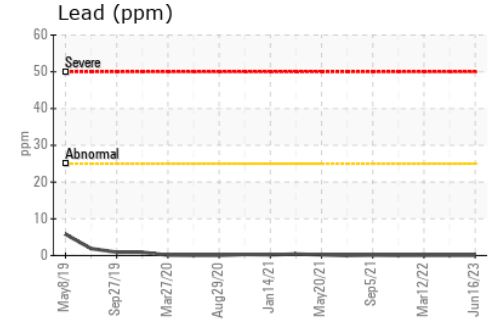
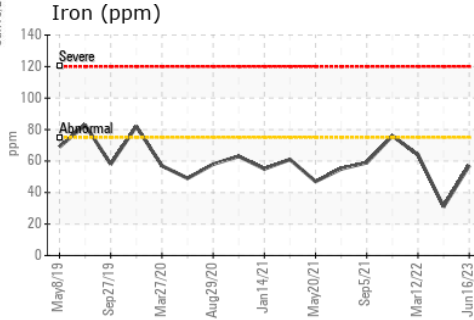
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	13.0	12.3

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOU LIN TRANSPORT (GARAGE)**
Sample No. : WC0817347 **Received** : 20 Jun 2023 1335 SHAWSON DRIVE
Lab Number : 02565280 **Diagnosed** : 21 Jun 2023 MISSISSAUGA, ON
Unique Number : 5594321 **Diagnostician** : Kevin Marson CA L4W 1C4
Test Package : MOB 1

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.

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